

User's Manual

600001670

FINA250A

Thank you very much for your purchasing.

- In order to use the machine correctly and safely and understand this product's capability, please read this manual carefully.
- The manual includes equipment structure, description, technical parameters, operation manual, safety information, application of software, etc.
- This manual is subject to change without notice.
- Contents herein contained are believed to be correct, however, please contact us if you find any error or something not clear enough.

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Chapter 1 Safety Information

Before use your FIAN 250 Printer, Please read following safety information. Pay attention to the cautions on the Printer.

1.1 Safety Cautions

- ◆ **Install over-current and over-voltage protecting facility for printer power.** Failure to follow this guide could result in electric shock, personnel injury and fire.
- ◆ **Clean the ink channels with solution matching to the used ink.** Failure to follow this guide could result in filter clog and ink channel blockage.
- ◆ **Besides the ground-line for power, another unattached ground-line should be connected outdoor.** Failure to follow this guide could result in abnormal work status of printer.
- ◆ **Static prevent facility should be settled on the carpet or in dry climate.** Failure to follow this guide could result in print head or other parts damage on the printer.
- ◆ **Waiting for 10 minutes at least after power off before the operation of transportation, connection and printer test.** Failure to follow this guide could result in electric shock.
- ◆ **Printer should be settled on flat floor and be adjusted horizontally.** Failure to follow this guide could reduce the print resolution.
- ◆ **Clean the print head and ink channel with solution after long-time printing.** Failure to follow this guide could result in print head damage and ink channel clog.
- ◆ **Never put hands on printer while the printer is working.** Failure to follow this guide could result in hand crushing.
- ◆ **Never put hands into the heating board while the board is heating.** Failure to follow this guide could result in hand scald.
- ◆ **Never put hands on rotating rollers while the printer is working.** Failure to follow this guide could result in hand crushing.
- ◆ **Don't open the electric tank in normal condition.** Failure to follow this guide could result in electric shock.

1.2 Important Safety Information

- Do not block the hole on the cover.
- Do not insert any object into the Printer groove. Don't let any kind of liquid splash into Printer.
- Only use the power supply according to the label. You may choose either AC 110V or 220V for different countries and regions.
- Connect all the equipment to a proper-grounded socket. Avoid the socket in the same circuit with copy machine or air conditioner.
- Avoid to using the socket controlled by the wall switch or by auto timer.
- Please keep Printer away from the latent source of electromagnetic disturbance like loudspeaker or wireless phone.

- Do not use damaged Electrical Power wire.
- If you use additional cable, please make sure that total amperage of the equipment connecting with cable shall not exceed the amperage of the power supply. Moreover, the amperage of all equipment connecting with wall socket does not exceed the amperage of the wall socket.
Do not repair Printer by yourself.
- Shut off the power and ask experienced technician for help, if the following situations occur:
 - Power cable or plug is damaged.
 - Liquid splashes into printer.
 - Printer falls down or broken.Printer cannot work properly or change in property.

1.3 Caution When Using Printer

- Don't use your hand to move print head; otherwise the printer will be damaged.
- Always use power switch to turn On/off the printer. Before shutting down the Printer, do not pull out Power Supply wire or Data Wire.
- Before moving the printer, please make sure the print head is fixed at original position.

1.4 Guide When Using Ink Cartridge

- Keep ink away from children. Do not let the children drink or touch.
- If ink spills on the skin, please wash with soap and water. If ink splashes into eye, please wash with water immediately
- Do not shake the ink cartridge in case ink leak is caused.
- After using for a certain period (generally 3 months), you should take off the ink cartridge, clean it and dry it.

1.5 Choosing Printer Installation Place

- Put printer at a horizontal and stable place with enough space; otherwise, the Printer may not work properly.
- Don't leave Printer at a place where temperature and humidity change severely. Avoid direct sunlight, strong light or heat.
- Avoid shaking or vibrating.
- Keep sufficient room around printer for air circulation.
- Place printer nearby the wall socket, so that it is easy to connect or disconnect the power supply.

1.6 Warning Caution and Attention

Warning

Users must obey in order to ensure personal safety.

Caution

Users must obey in order to protect the machine.

Attention

Contain some important and useful information about operation.

Chapter 2 Technical Parameters



Figure 2-1 Printer Outlook

Product Model	FINA250A	
Print Technique	Xaar126 piezoelectric head, 8 /12 heads inside	
Resolution	360dpi, 720dpi	
Color Quality	Photo Quality/Two Level (General、High) /X、Y are all grating locational print.	
Max Media Width	2540mm	
Max Printing Width	2500mm	
Output(M ² /H) (M ² /H)	Mode	Output (m ² /h)
	360x360	29.6
	360x720	14.7
	720x720	7.3
Display	LCD display with 8 key panel, self-diagnosis available	
Ink Type	Solvent-base ink: C,M,Y,K	
Ink Supply Mode	300 ml/min auto ink supply by electric pump, volume of main tank 1000 ml/color	
Ink Inspection System	Auto/manual ink supply, low ink detector	
Printing Driver	Support many RIP drivers and operation platforms (Window 2000, XP, etc.)	
Media Type	Flex, vinyl, window film, polyester, etc	
Media Input	Roll media or sheet media (bigger than A4 or 210 mm)	
Media Processing	Auto feeding and take-up system, weight less than 40 kg/roll	
Print head Height	2 mm-3 mm above media adjustable	
Pre-heater & Dry System	Front-rear temperature control, Max temperature 65℃, Cold wind dry system	
Clamp	Manual adjustment media width	
Print head Cleaning System	Auto positive pressure cleaning	
Safety System	Inside safety lock with auto shutting down function	
Print Interface	USB 2.0 Ports(Window 2000、NT、XP etc)	

Noise	Printing status≤60 dB/waiting status≤40 dB (ISO 7779)
Printer Size (including ink tank) / Net Weight	L 3,600 mm×W 870 mm×H 1,295 mm/330 KG
Package Size / Weight	L 3,720 mm×W 925 mm×H 1,090 mm/368 KG
Heating&Controlling Voltage	AC 100 --240 V /50HZ /60HZ
Input Media Voltage	AC 220V / 50HZ / 60HZ (AC 110V Optional)
POWER (AC 220V Hour)	3500W
Software Platform	Window 2000、XP
Working Environment	Temperature: 20℃ ~ 30℃ Humidity: 40% ~ 80%

The parameters above are subject to change without notice.

Chapter 3 Equipment Assembly and Adjustment

3.1 Assemble Printer

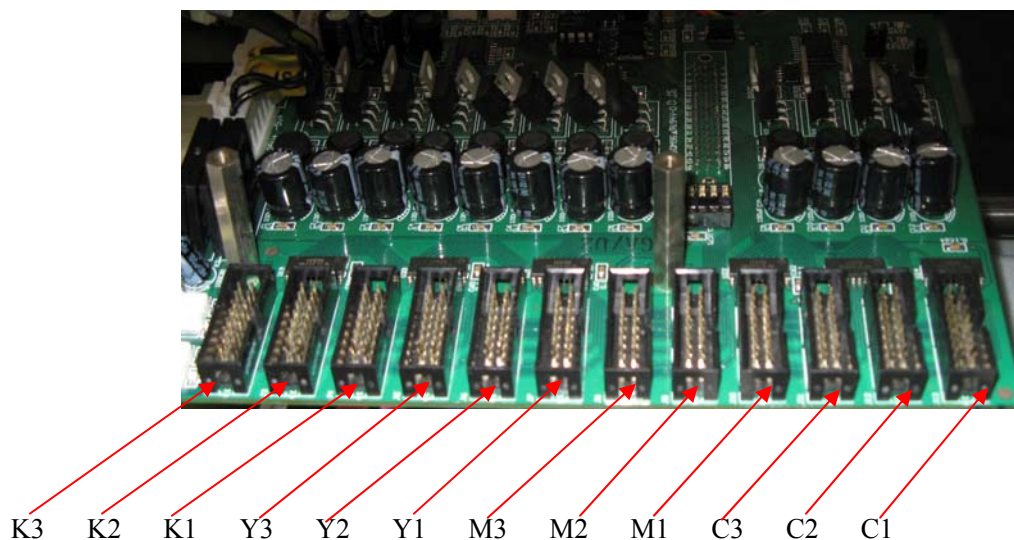
- 1、 Please tighten all screws on the supporter.
- 2、 Put the printer on supporter with sufficient manpower. Make sure the printer stable enough.
- 3、 Install auto ink supply system on right side.
- 4、 Please connect all power cables correctly.
- 5、 Install main ink tank in right side ink supply box and connect each ink pipe with ink hole correctly.



Figure 3-1 Main Ink Tank

- 1、 Install waste ink tank. Connect each waste ink pipe with waste ink tank on both sides of printer.
- 2、 Install Xaar 126 head.
- 3、 Connect print head with control board.

Connection sequence as figure below:



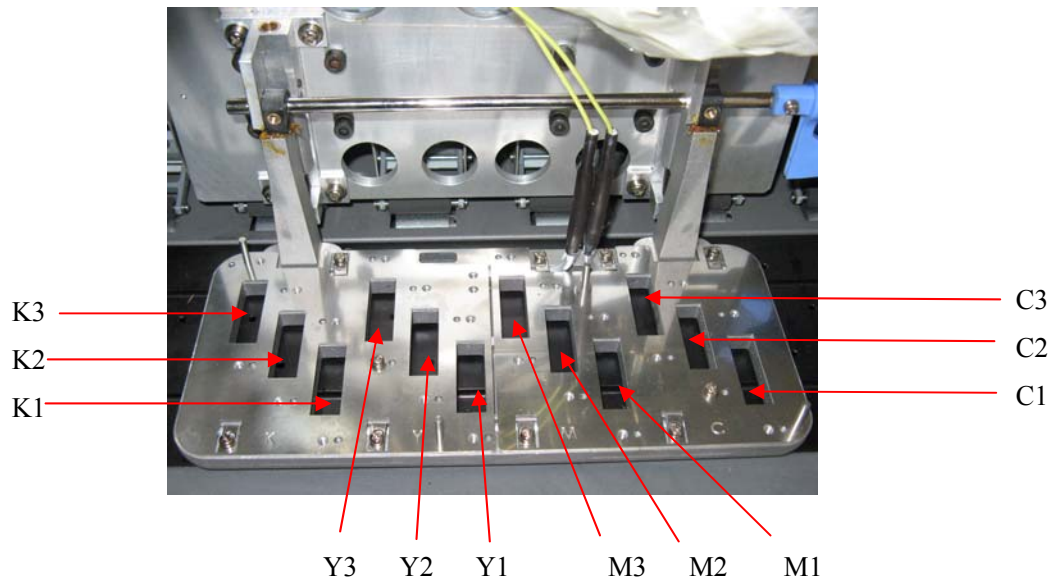


Figure 3-2 Connection Sequence

3.2 Port of Printer

Installation:

Connect the printer's USB port with computer's USB port directly by data cable.

USB driver procedure finishes automatically when Try Setup is installed.

3.3 Attention before Turning on the Printer

1、 In order to clean print head easily, please prepare following items:

- Flush solution
- Non-woven fabric.

2、 In order to inspect temperature and humidity of printing environment, please prepare relative measurers.

Requirement for environment:

- Temperature: 20°C - 30°C
- Humidity: 40% - 80%

3、 Power supply

Please select for different countries or regions:

Control power supply: AC 100~240V 50/60 HZ

Heating, Feeding, Cleaning power supply: AC 100/240V 50/60 HZ (AC 100V optional)

Please choose the type of power shown on the printer in case of damage to the printer.

- Make sure the printer is well grounded.

- It is better to use UPS stable-voltage power.

4、 Requirement for computer

In order to avoid problems caused by computer, please choose high quality computer or brand computer.

3.4 Connect with Power

1. After all parts are installed, put the printer at the proper place. Removing carefully all the packaging materials like foam, adhesive tape.
2. Connect power cables and data cables. Power protective switch can only control heating power and it is at open status in normal condition (It's in the open status when far from red point).
3. After everything is ready, switch on power.
4. Load media.
5. Test to check if print head is good to print. If the test result is unsatisfactory, you should clean print head.

Chapter 4 Equipment Structure and Accessory

Main Structure of FINA250A:



Figure 4-1 YF-8250B PLUS Front View

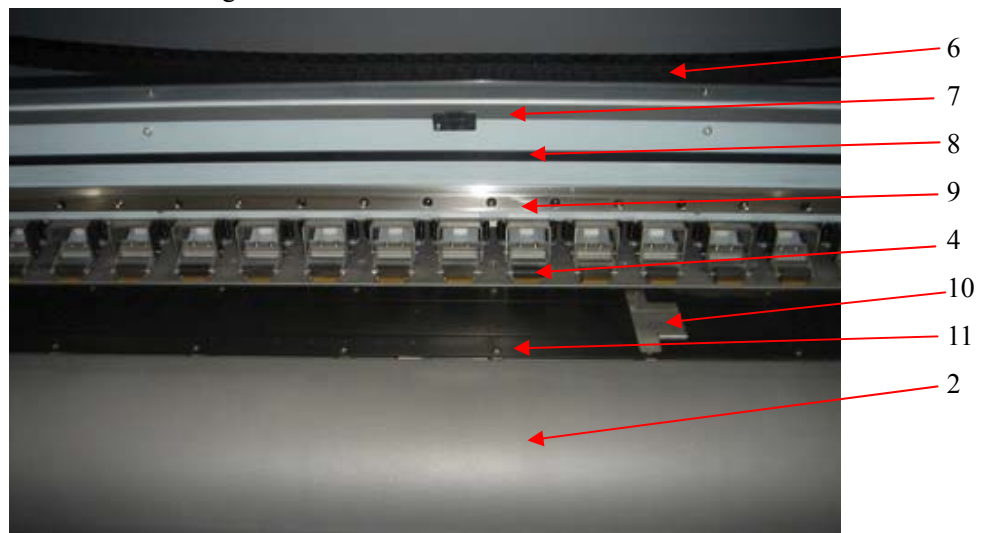


Figure 4-2 Print Platform



Figure 4-3 Pressing Rod

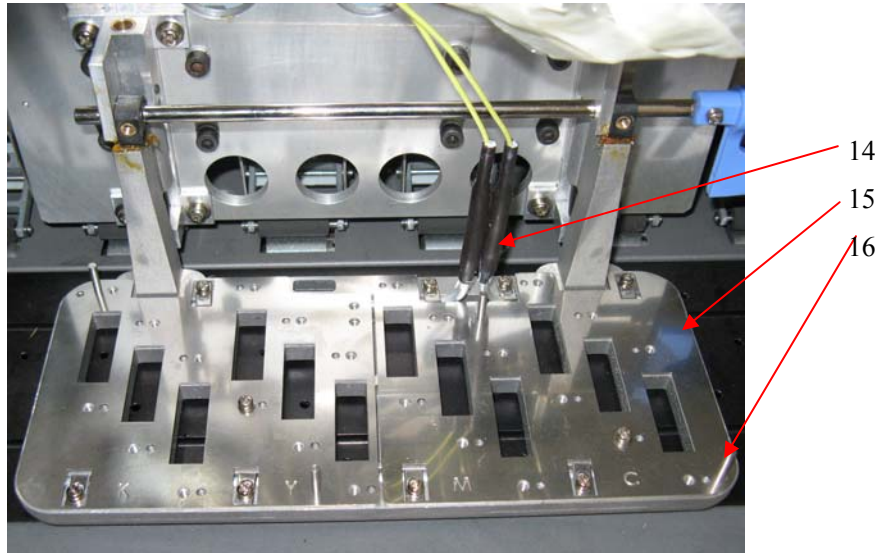


Figure 4-4 Print Head

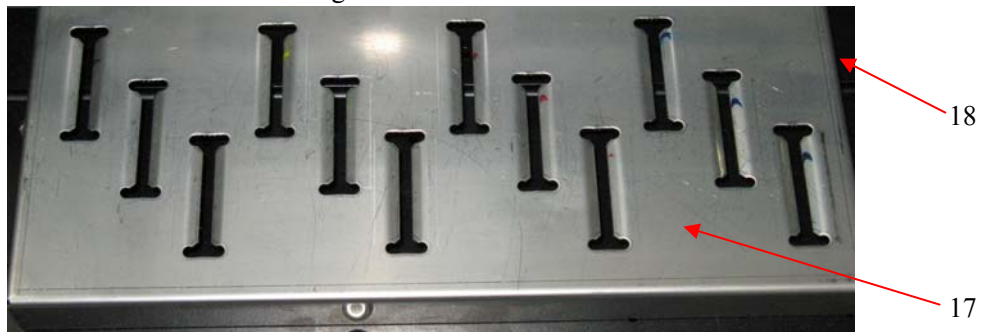


Figure 4-5 Flash Ejection Print Frame

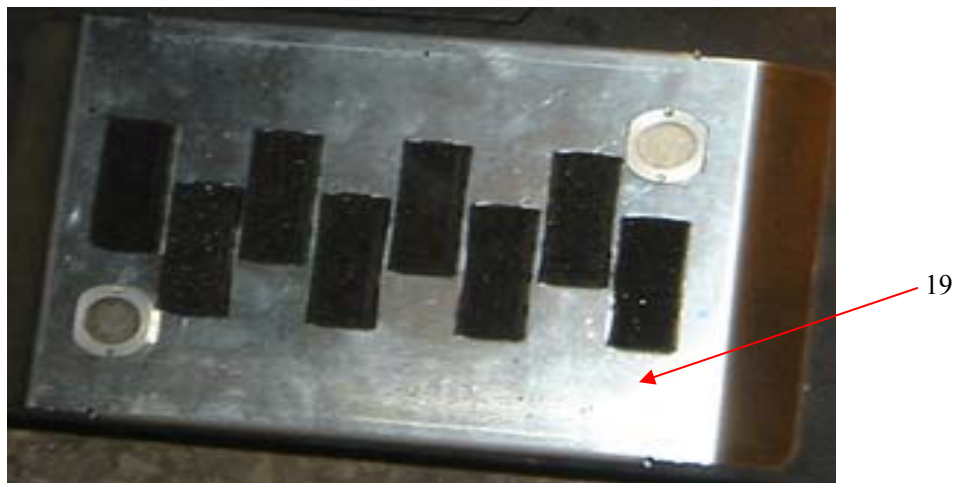


Figure 4-6 Wet-keeping Frame

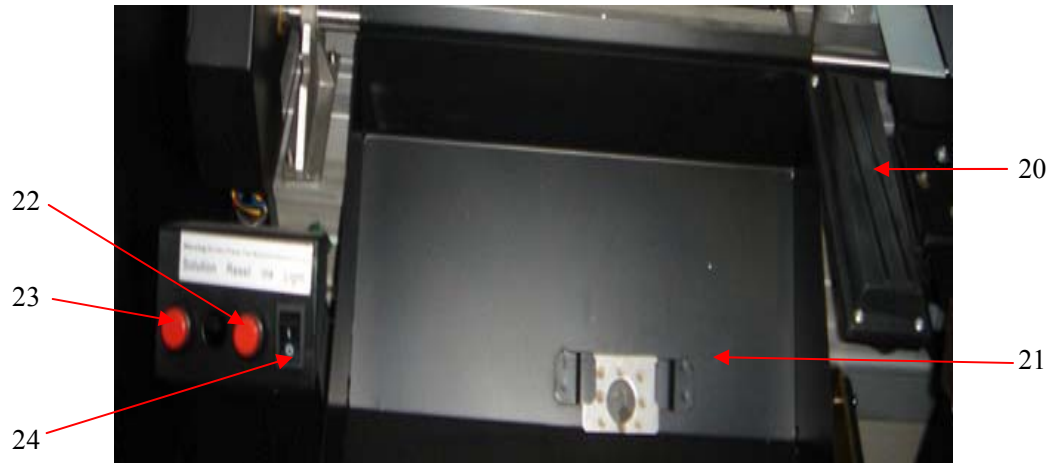


Figure 4-7 Cleaning, Pressing Ink System

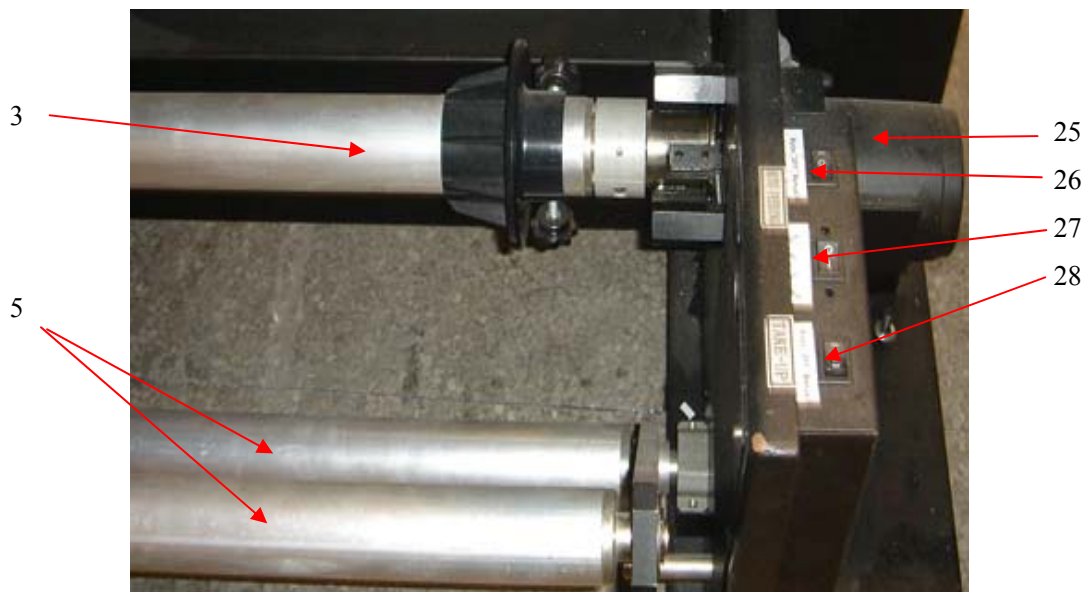


Figure 4-8 Media Take-up system

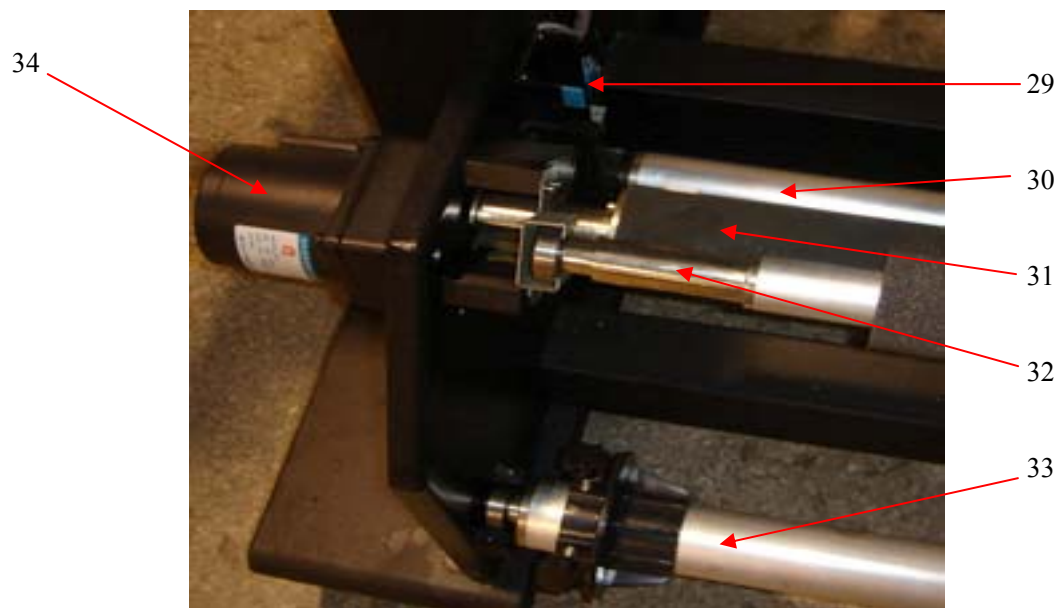


Figure 4-9 Media Feeding System

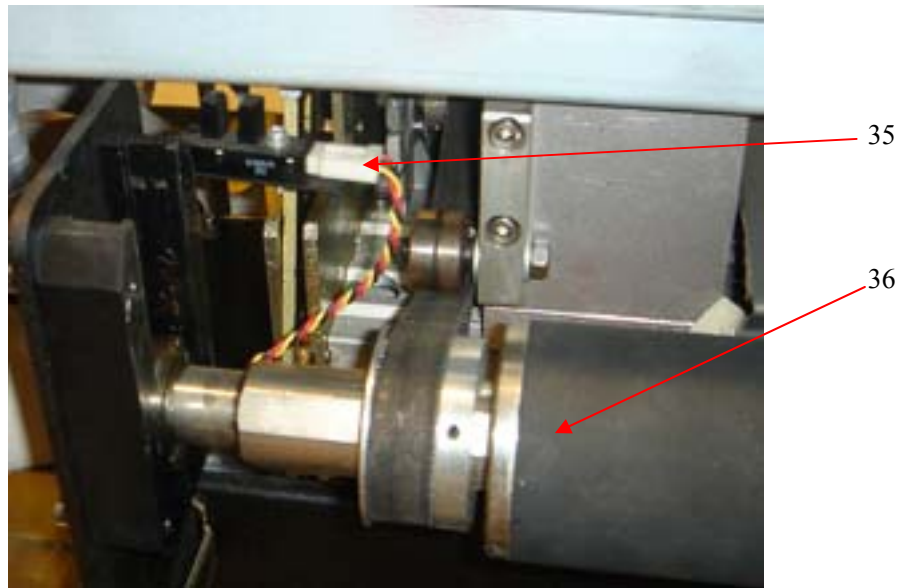


Figure 4-10 Pressing Rod Sensor

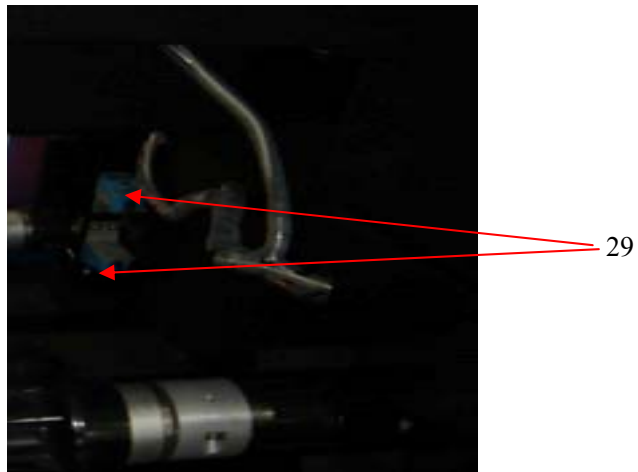


Figure 4-11 Media Feeding Roller Sensor

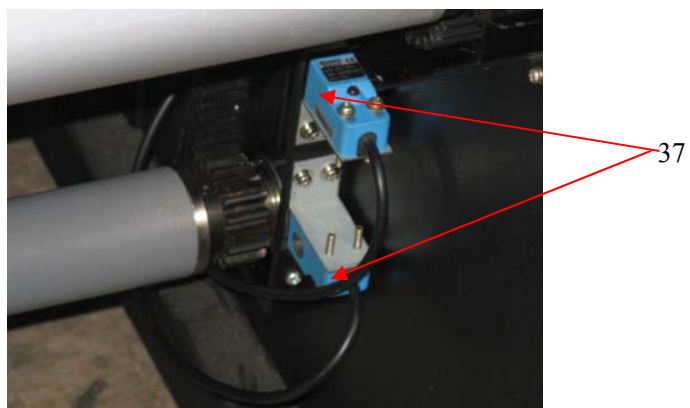
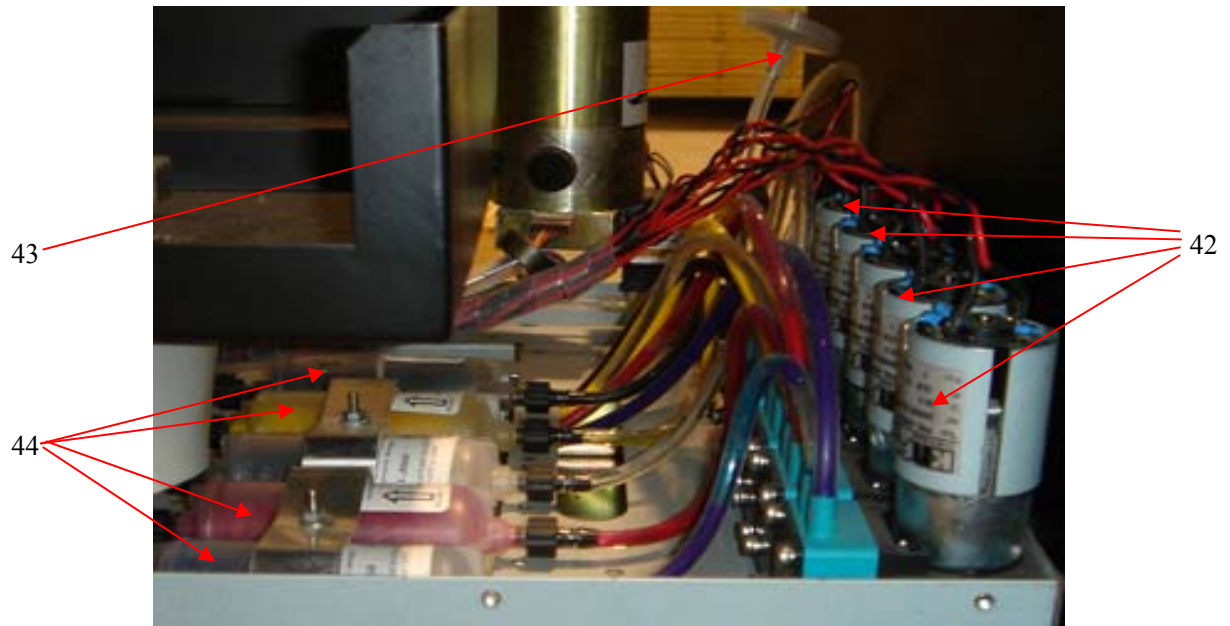


Figure 4-12 Media Take-up Roller Sensor



Figure 4-13 Power and Data Cable Socket



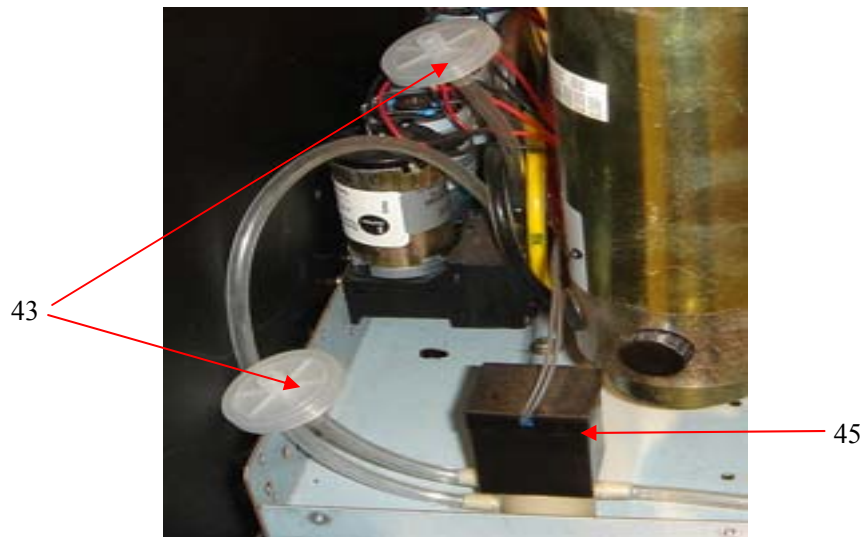


Figure 4-14 Ink Pump, Filter and Electromagnetic Valve

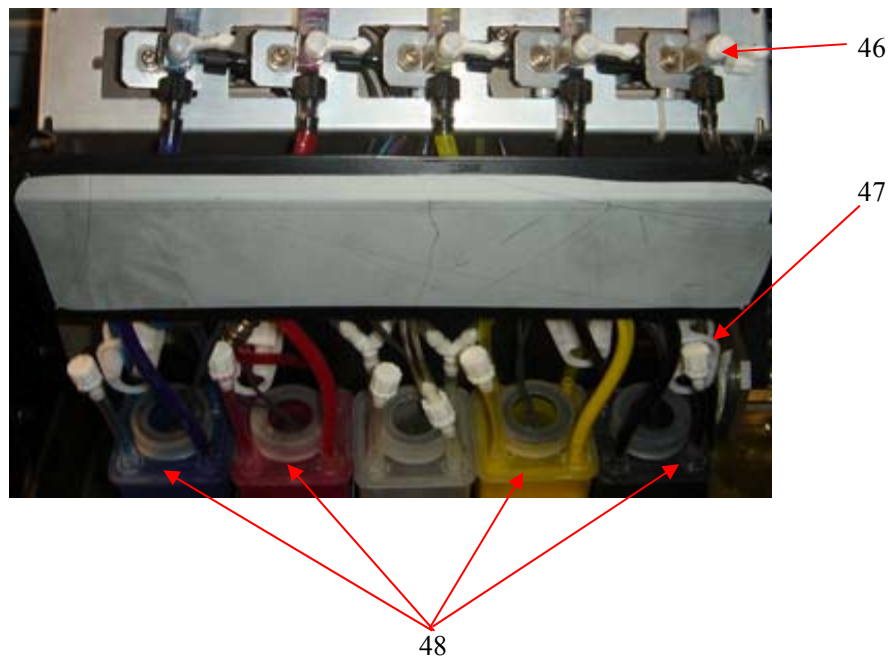


Figure 4-15 Assistant Ink Tank and Triple Valves

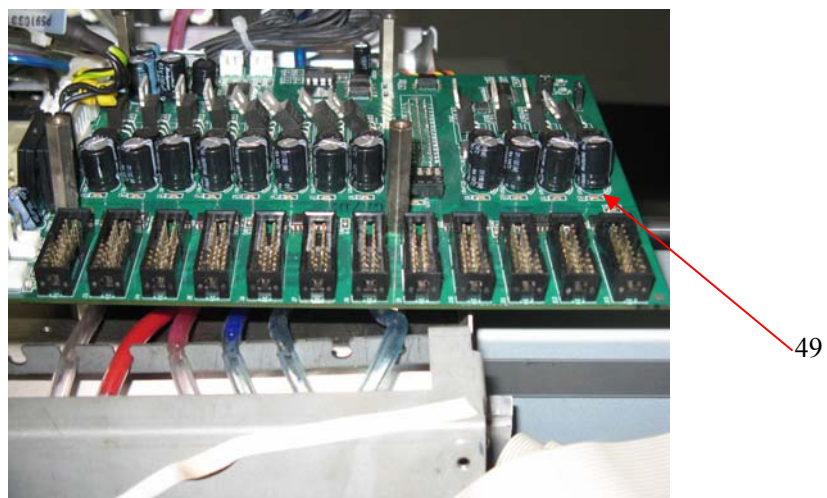


Figure 4-16 Head Frame Electric Parts

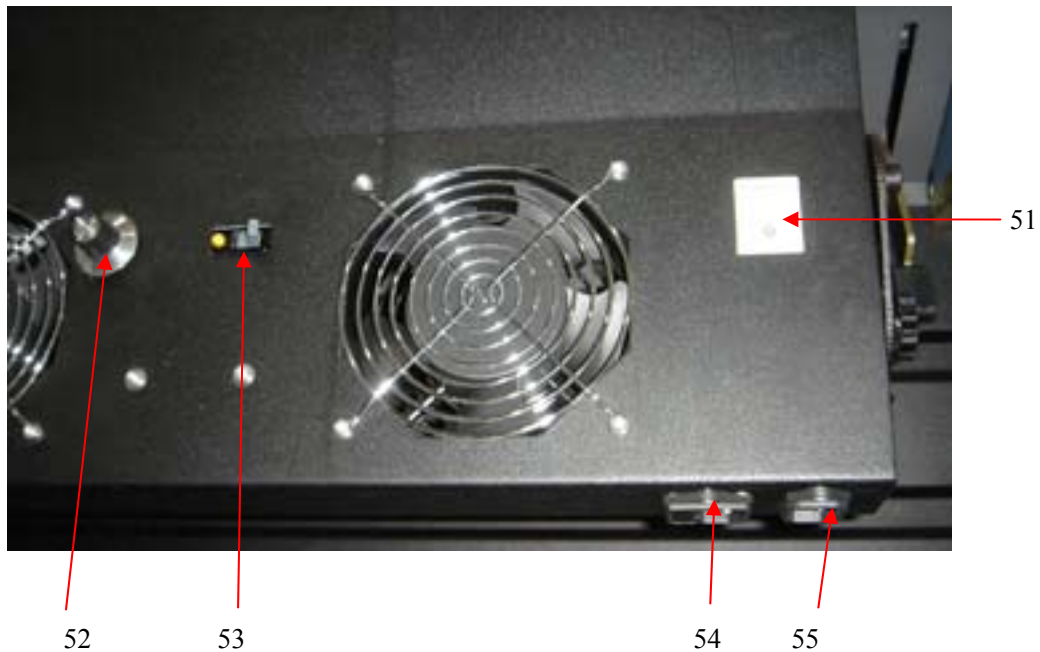


Figure 4-17 Blowing System

- 1、 LCD Panel: Setting and Operating Functions
- 2、 Heating Platform: Heating print media, making ink dry quickly.
- 3、 Pick up Roller: Picking Media
- 4、 Pressing Wheel: Press media and make media smoothly
- 5、 Media Stretch Roller: used to make media smoothly.
- 6、 Chain: used to support ink pipe and power cable.
- 7、 Y Grating Bar: Used to count the time of horizontal motions and ensure the prcision of printing in Y direction.
- 8、 Y Strap: Used to drive print head move horizontally.
- 9、 Guid Bar: Track of print head motion.
- 10、 Clamp: Manually adjust media width
- 11、 Printing Board: Platform for printing
- 12、 Pressing Wheel Control Pole: Control pressing wheel up / down for media feeding
- 13、 Power Switch: power on/off the printer.
- 14、 Print Head Frame: Used to assemble print head on it.
- 15、 Heating Pipe: Used to heat print head frame.
- 16、 Print Head: Xaar126 piezoelectrical print head.
- 17、 Flash Ejection Print Frame: Used to prevent the ink eject out.
- 18、 Flash Ejection Box: Used to vent waste ink.
- 19、 Wet-keeping Frame: To keep print head wet and prevent ink in it from dry.
- 20、 Air Bells Blade: For print head negative pressure cleaning.
- 21、 Waste Ink Groove: Collect the waste ink during cleaning.

- 22、Press Ink Button: For print head positive pressure cleaning.
- 1、Clean Button: For cleaning by flush solution.
- 23、Light Switch: Power on/off light
- 24、Take-up Roller Electromotor: Drive take-up roller
- 25、Media Feeding Manually/Automatically Switch: manually control or automatically control or shut down media feeding motor.
- 26、Feeding Roller Run Forward/Backward: Control roller to run forward/backward.
- 27、Media Take-up Manually/Automatically Switch: manually control or automatically control or shut down media feeding motor.
- 28、Auto-feeding Roller Sensor: Control feeding roller electromotor when printing media is little.
- 29、Stretch Roller: Stretch media to make it smooth.
- 30、Feeding Driving Roller: When feeding electromotor receives signal, it can feed media automatically.
- 31、Pressing Roller: Make the media smooth.
- 32、Feeding Roller: Used to support media.
- 33、Feeding Roller Electromotor: Drive feeding roller.
- 34、Pressing Rod Sensor: Detect if the rod presses media tight.
- 35、Step Following Roller: Make the media move smoothly.
- 36、Auto take-up Roller Sensor: Control take-up roller electromotor when printing media is little.
- 37、Print Cable Port: USB port or connect to data card in computer.
- 38、Heating Power Socket: connect with heating power
- 39、Heater Protective switch: prevent electric leakage of heating board
- 40、Power Socket: Supplying power to printer.
- 41、Ink Pump: Provide ink to sub ink tank
- 42、Air Filter: Filtrate air to prevent dust
- 43、Ink Filter: Filtrate impurity in ink.
- 44、Electromagnetic Valve: Automatically control the air route
- 45、Manual Valve: Manually control the air route.
- 46、Tube Clamp: cut air
- 47、Sub ink tank: Store ink and supply to print head.
- 48、Print Head Drive Board: Drive print head.
- 49、Main Board: Control print head.
- 50、Fan Switch: Power on/off fan
- 51、Far Infrared Heating Power Adjusting Knob: To adjust the heating power.
- 52、Far Infrared Heating Switch: Power on far infrared heating.
- 53、Far Infrared Heating Power Socket: Supplying power for heating.
- 54、Fan Power Socket: Supplying power to fan.

Chapter 5 Usage & Maintenance of Print Head

5.1 Usage of Xaar 126 Print Head

1、 Flush liquid out of the print head

For print head protecting, lots of liquid is injected into the print head before it is used. The liquid must be flushed out for the first time using. Before fixing the print head on the print head frame, operate as follows: joint a filter on the In-tube of the print head, and then joint an injector--which fills with flush solution--on the filter. Inject 30 ml flush solution into the print head to eject the liquid inside. Then fill full the print head with flush solution for complete dissolving within 5-10 minutes. Finally, flush the print head with about 30ml flush solution to eliminate the liquid completely. If you find the printing line is not linear, flush the print head again.

Make sure to operate on a stable and clean platform.

Steps:

- ① Suck some 20 ml flush solution into the injector.
- ② Inject flush solution into the inlet of the print head and let it flow out from the outlet.
(some 15 ml)
- ③ Plug up the inlet of print head and let solution flow out from the nozzles.
- ④ keep the print head stillness for some 10 minutes. And repeat the action of ① to ③.

Notice:

- ① Operate on a clean and convenient platform.
- ② Never touch the surface and socket of the print head with your fingers.
- ③ The injector should be filtrated with a filter.
- ④ Extend the outlet of the print head with an ink tube and ensure cleaning solution won't inpour into the socket.
- ⑤ Never touch the print head surface with other objects.
- ⑥ Dispose the inlet and outlet carefully.
- ⑦ The force to inject cleaning solution can't exceed 0.3 kg.

2、 Extrude air from the print head

After fixing the print head on the print head frame (be careful of the in tube and out tube). Remove the Cap from the Out tube; positive-pressure clean to make ink flow out from exhaust tube . During the process air is extruded completely from the print head.

3、 Wet the print head surface

After extruding air from the print head, cover the Cap on the Out tube. Positive-pressure clean again until ink streams out from the nozzles, then wipe the print head surface with a clean stick (without flush solution) to form a protecting coat on the print head surface.

Notes: When ink on the print head surface streams into nozzles completely and the surface is dry, never wipe on the print head surface, because that will orient air into the nozzle and shape bubbles in

the pipelines and affect the printing quality.

4、Test printing

Design C、M、Y、K four color blocks as 20x20 cm with some image operating software, and set color luminance to 100%, 50% and 10%. Print the color blocks under test mode and check the print result. If the print result is normal which means no ink-break and no ink spots on the mediums, the printer can work normally.

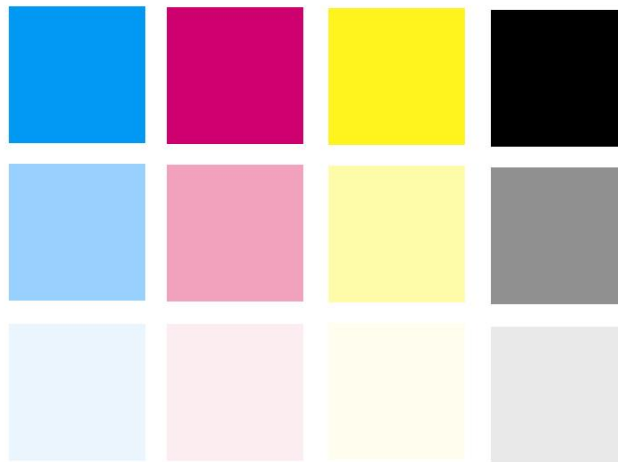


Figure 5-1 Test Figure

5.2 Cleanner and maintenance of the print head

1. Ink replacing

Flush the print head with the original ink first, and then flush it again with new flush solution, which match the new ink.

2. Print head cleaning

After positive pressure cleaning, wipe the print head surface with a clean stick to stop the ink streaming out of the nozzles. Be sure not to use a stick with flush solution to wipe the print head surface, otherwise, the flush solution will stream into the nozzles.

3. Liquid preservation of the print head

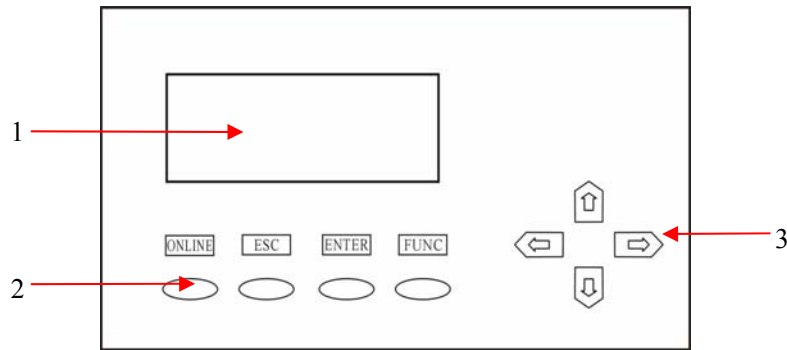
When the printer is not used, the print head should be preserved with liquid preservation frame as below:

Use a clean non-woven fabric with some flush solution to cover the print head and wrap the print head with a velum.

Note: This preservation is just short-term.

Chapter 6 Basic Panel Operation

6.1 Menu Structure of Control Panel



1--LCD

2--Function Key

3--Direction Key

Figure 6-1 Control Panel

6.1.1 Function Keys

1、Direction (Arrow) Key

1) Operation on Panel:

↑ ↓ Keys are used to move menu to select functions and change value.

⇐ ⇒ Keys are used to move location of cursor when change value.

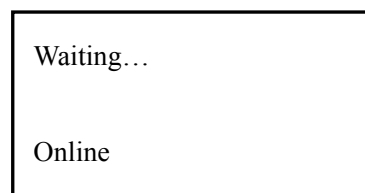
2) Operation under Standby State:

↑ ↓ Keys are used to move media forward or backward.

⇐ ⇒ Keys are used to move print head to cleaning location or back.

2、Function Key

1) ONLINE: Switch between online and offline mode; Press for some seconds for a pause when printing.



2) ESC: Back to the upper menu

3) ENTER: Confirm the command and execute it

- 4) FUNC: Switch to special function; In standby state, press FUNC+↵ key to print test bar.

3、Basic Operation

After turning on printer, Y motor self-tests first and then X motor, print head self-test.

Booting	>System
	>Y Motor
V1.13	>X Motor
Check	—>Print head

After self-testing, carriage goes back to the original position. You will see the following information displayed on the LCD screen:

- Mark /// *INFINITI* with machine model
- Version

Then back to basic operation menu.

MENU	1. Ink Status	+
	2. Heat Status	+
	3. Cleaning Tool	+
OFFLINE	4. Print para	+

6.1.2 Menu Description in Details

“+” stands for containing submenu. “-” stands for containing no submenu.

In this case, press ↑/↓ key to circularly display these six menus up and down. Main menu contains:

—> 1. Ink Status	+	Ink Supply State
2. Heat Status	+	Heating State
3. Cleaning Tool	+	Cleaning Tool
4. Print para	+	Print Parameter Set
5. Application	+	Application Set
6. Engineer Set	+	Factory Set

Press FUNC+↵ keys to print test bar.

When“—>”points to “1. Ink Status”, press ENTER, then the LCD will display as below:

MENU →	Ink Status
M1	Ch A C M Y K c m
	Rn _ _ _ _ _
OFFINE	Al _ _ _ _ _

“M1” stands for the submenu of the first main menu.

In this case, press **ESC** key, and it will go back to main menu.

Press **↑/↓** keys to circularly display sub menu. When there’s a “—” after the menu arrow (that is the first line on menu), press **ENTER** key to execute operation. Press **ESC** key to exit.

6.2 Function Description in Details

Main Menu	Submenu	Description									
1. Ink Status	Ink Status	Press ENTER key, the LCD will display as below:									
	Ch A C M Y K c m Rn _____ Al _____	<table><tr><td>Menu</td><td>Ink Status</td></tr><tr><td></td><td>Ch A C M Y K c m</td></tr><tr><td></td><td>Rn _____</td></tr><tr><td>Offline</td><td>Al _____</td></tr></table> <p>The Ch line stands for ink route way.</p> <p>A stands for all air tank; C M Y K c m stands for colors cyan, magenta, yellow, black, light cyan, light magenta.</p> <p>The Rn line stands for the ink state (corresponding to the colors above line).</p> <p>The AL line displays ink supply overtime warning.</p>	Menu	Ink Status		Ch A C M Y K c m		Rn _____	Offline	Al _____	
Menu	Ink Status										
	Ch A C M Y K c m										
	Rn _____										
Offline	Al _____										
2. Heat Status	Heat Status	Press ENTER key, the LCD will display as below:									
	preheating print head T 00 00 00 Set 00 00 00	<table><tr><td>Menu</td><td>Heat Status</td></tr><tr><td></td><td>FH Pre PH</td></tr><tr><td></td><td>Tem. 25 00 25</td></tr><tr><td>Offline</td><td>Set. 25 40 25</td></tr></table> <p>The T line displays the actual temperature; the Set line displays the setting temperature.</p>	Menu	Heat Status		FH Pre PH		Tem. 25 00 25	Offline	Set. 25 40 25	
Menu	Heat Status										
	FH Pre PH										
	Tem. 25 00 25										
Offline	Set. 25 40 25										
3. CleaningTool	Firing	Press ENTER key, the LCD will display as below:									
		<table><tr><td>Menu</td><td>1、 Firing -</td></tr><tr><td></td><td>2、 Jam Test -</td></tr><tr><td></td><td>3、 Clean Post. -</td></tr><tr><td></td><td>4、 Home Post. -</td></tr><tr><td>Offline</td><td>5、 Auto Clean -</td></tr></table> <p>After pressing ENTER, LCD displays “Busy”, and ink spurt out from the print head to prevent nozzles jam. "Busy" disappears after cleaning. Press "ENTER" again, clean again. The spurting quantity is set by Firing Vol in Print Para.</p>	Menu	1、 Firing -		2、 Jam Test -		3、 Clean Post. -		4、 Home Post. -	Offline
Menu	1、 Firing -										
	2、 Jam Test -										
	3、 Clean Post. -										
	4、 Home Post. -										
Offline	5、 Auto Clean -										

	Jam Test	After pressing ENTER, start test printing.				
	Clean POS	Press ENTER to move print head to left of machine.				
	Home Post	Press ENTER to move print head to original position.				
	Auto Clean	Press ENTER to move print head to left of machine to clean..				
4.Print Para	Print Post	<p>LCD will display as bellow:</p> <table><tr><td>Menu</td><td>Print Pos. (mm)</td></tr><tr><td>Offline</td><td>0200</td></tr></table> <p>After pressing ENTER, LCD displays number “XXXX”, and then press ⇐ ⇨ keys to move the cursor to select number, then press ⬆ ⬇ keys to change the position of number, then press ENTER to save. Later printing or self-test will start from the saved position.</p> <p>After pressing ENTER, LCD displays number “XXXX”, and then press ⇐ ⇨ keys and FUNC or (⇐ ⇨keys and FUNC)to make the head move right or left. After moving to the desired position, press ENTER to save. Later printing or test printing will start from this position.</p>	Menu	Print Pos. (mm)	Offline	0200
Menu	Print Pos. (mm)					
Offline	0200					
	Bi-dir. Adj	<p>After pressing ENTER, LCD displays as below:</p> <table><tr><td>Menu</td><td>2、 Bi-dir. Adj.</td></tr><tr><td>Offline</td><td>0050</td></tr></table> <p>Used for revising the print head position for bidirectional printing.</p>	Menu	2、 Bi-dir. Adj.	Offline	0050
Menu	2、 Bi-dir. Adj.					
Offline	0050					

	<div>Print Speed</div> <div>Horizontal speed has three levels as High, Norm and Low. After you pressing ENTER, it displays as follow:<table><tr><td>Menu</td><td>3、 Print Speed</td></tr><tr><td>Offline</td><td>Norm</td></tr></table> Press $\uparrow\downarrow$ to adjust the value. Speed higher, print quality lower. It is recommended to choose speed Norm better, optimal is Low.</div>	Menu	3、 Print Speed	Offline	Norm				
Menu	3、 Print Speed								
Offline	Norm								
	<div>Feed Speed</div> <div>After you pressing ENTER, it displays “Norm” , then press $\uparrow\downarrow$ keys to adjust the value from High to Normal to Low Higher speed, faster media moving.</div>								
	<div>Firing Vol</div> <div>After you pressing ENTER, it displays “XXXX” number, Press $\uparrow\downarrow$ keys to adjust value to set the quantity of printing ink after each cleaning and the quantity of Firing in flush mode, the default value is 20.</div>								
	<div>Flash Mode</div> <div><div>Used to set flash mode by number. 0 stands for not flashing in printing. Number from 1 to 9 stands for printing 1 PASS, flushing once.</div><table><tr><td>Menu</td><td>6、 Flash Mode 0009</td></tr><tr><td>Offline</td><td>Vacuum Off</td></tr></table><div>(When number is 1 to 9, the printer only flushes.) When number is more than 9, printer automatically starts negative pressure cleaning.)</div><table><tr><td>Menu</td><td>6、Flash Mode 0010</td></tr><tr><td>Offline</td><td>Vacuum On</td></tr></table><div>Number is 10 stands for printing 10 PASS, negative pressure cleaning once. Max number is 300.</div></div>	Menu	6、 Flash Mode 0009	Offline	Vacuum Off	Menu	6、Flash Mode 0010	Offline	Vacuum On
Menu	6、 Flash Mode 0009								
Offline	Vacuum Off								
Menu	6、Flash Mode 0010								
Offline	Vacuum On								

PH Volt. Set	After you pressing ENTER, it displays as below:	
	Menu	PH 1 Voltage
		PH 2 Voltage
		PH 3 Voltage
	Offline	PH 4 Voltage
		PH 5 Voltage
		PH 6 Voltage
		PH 7 Voltage
		PH 8 Voltage
		PH 9 Voltage
	PH 10 Voltage	
	PH 11 Voltage	
Print head 1,2 stands for C color group;		
Print head 3,4 stands for M color group;		
Print head 5,6 stands for Y color group;		
Print head 7,8 stands for C color group;		
press ENTER, it displays as below:		
Menu	1 PH 1 Voltage	
	0100	
Offline	0254	
The first line stands for the EF value of print head inC group is 1, the below line stands for the actual voltage of print head inC group is 25.4V. The actual voltage is correlative with voltage curve.		
Press ⬆ ⬆ keys, then press ENTER can adjust the voltage of print head. Other voltage settings of print head are same to above steps.		

5.Application	Curve of ink	<p>Used to select curve of ink. Curve of ink shows the relation of voltage and temperature. LCD will display as below:</p> <table border="1"><tr><td>Menu</td><td>9、Curve of Ink</td></tr><tr><td>Offline</td><td>Xr 3s EP</td></tr></table> <p>The name of curve will be displayed on LCD: <u>00 0 0 0000</u> 1 2 3 4</p> <p>The meanings of curve:</p> <p>1、 SK: means SKIEO fine print head Xr: means XAAR print head Sp: means Spectra print head</p> <p>2、 2: means 200 dpi print head 3: means 300 dpi print head</p> <p>3、 S: means solvent ink O: means oil ink U: means UV ink</p> <p>4、 name of ink</p> <p>Ink has different styles has different curves.</p>	Menu	9、Curve of Ink	Offline	Xr 3s EP
	Menu	9、Curve of Ink				
	Offline	Xr 3s EP				
Front Heater	<p>After you pressing ENTER, LCD will display as below: The temperature set to heat the front platform. LCD displays “XXXX” , stands for the present temperature of front platform. Press ↑↓ keys to adjust the value. Max temperature is 65°C.</p>					
PreHeater	<p>After you pressing ENTER, LCD will display as below: LCD displays “XXXX” , stands for the present temperature of rear platform. Press ↑↓ keys to adjust the value.</p> <p>For there is only one sensor to detect the temperature of front/rear platforms, so user can not change the preheating temperature on the LCD operating panel.</p>					

	PH Heater	<p>After you pressing ENTER, LCD will display as below:</p> <table><tr><td>Menu</td><td>PH Heater (°C)</td></tr><tr><td>Offline</td><td>0045</td></tr></table> <p>Used to control the temperature of print head when it is printing. After you pressing ENTER, LCD will display “0045”, stands for the present temperatures of front/rear platform are 45°C. Press ⬆⬇ keys to adjust the value.</p>	Menu	PH Heater (°C)	Offline	0045						
Menu	PH Heater (°C)											
Offline	0045											
	Media Detect	<p>After you pressing ENTER, LCD will display as below:</p> <table><tr><td>Menu</td><td>Media Detect</td></tr><tr><td>Offline</td><td>Off</td></tr></table> <p>OFF</p> <p>Press ⬆⬇ keys to set to ON.</p> <p>Under standby state, put the press rob up then down, the LCD will display:</p> <table><tr><td>Menu</td><td>Media Detect</td></tr><tr><td>Warn2</td><td>Star:0000mm</td></tr><tr><td></td><td>Lenth:0000mm</td></tr></table> <p>After you pressing ENTER, printer detects the media automatically. Press ESC, exits the detection.</p> <p>Finish detection, LCD will display OK and save the data and offset as the original printing position. Displays Error stands for the detection is unsuccessful and the original position is not changed. This function is unusable for this printer.</p>	Menu	Media Detect	Offline	Off	Menu	Media Detect	Warn2	Star:0000mm		Lenth:0000mm
	Menu	Media Detect										
	Offline	Off										
	Menu	Media Detect										
Warn2	Star:0000mm											
	Lenth:0000mm											
Media Offset	<p>After you pressing ENTER, LCD will display “XXXX”, then press ⬆⬇ keys to adjust the value.</p> <p>Sum of this date and media detection data will be the data of original printing position.</p> <p>This function is unusable for this printer.</p>											
Fan Volocity	<p>It can be adjusted from level 1-10.</p>											
T Neg. Pressure	<p>Used to set the negative pressure value of ink supplying system. After setting, observe the negative pressure watch behind the printer, ensure the value is between -1.3 and -1.4. This function is unusable for this printer.</p>											

	UV Lamp Power	This function is unusable for this printer.				
6.Engineer Set	Clean Post	Used to set the distance between original position and cleaning position. It is convenient for manual negative cleaning （only for engineer’s using）				
	Printer Width	Used to set the max moving distance of printer （only for engineer’s using）				
	Moving Test	<div>After pressing ENTER, LCD will display as below:<table><tr><td>Menu</td><td>Moving Test</td></tr><tr><td>Offline</td><td>0000</td></tr></table><p>It is simulant printing state, the printer dose not jet ink. Mainly used for approximate test. The number below means the times of trip of the printer.</p></div>	Menu	Moving Test	Offline	0000
	Menu	Moving Test				
	Offline	0000				
	Default Set	Resume the default parameters. Press FUNC+ENTER to execute. （only for engineer’s using）				
	Y Test Speed	Used to test the max printing speed of Y axis. （only for engineer’s using）				
X Test Speed	Used to test the max moving speed of X axis. （only for engineer’s using）					

6.3 Menu in Usage

6.3.1 Displays on LCD in printing

LCD displays as below:

PRINT PROJECT		
LINE: TOTAL: XXXX	←	Total Printing
FINSH: XXXX	←	Lines
RIP READY: XXXX	←	Finished Lines

6.3.2 Displays on LCD in Pause

If there is jam in printing, press ONLINE key, “Busy” will displayed, then pause print (the operation is usable only when printer is printing back to original position), LCD will display as below:

Waiting	1. Ink status	+
	2. Heat status	+
	3. Cleaning tool	+
	4. Continuous	-
Online	5. Cancel	-

Now press ↑ ↓ keys to clean print head. After cleaning, press Continuous key to continue printing or press ↑ ↓ keys to cancel printing.

6.3.3 Menu Displayed when finishing Printing

Waiting...
Online

6.3.4 Warning and Error Displays

Warning:

1. Warn1: UV lamp is not ready;

Note: This printer has no this function.

2. Warn2: Press rob has not be pressed down.
3. Warn3: System is supplying ink.

Error:

Error in printing, printer works still, system warns:

1. Err5: ink supply is overtime
2. Err6: safe tank is full
3. Err7: solvent: waste tank is full
4. Err8: N

Error in power-on self-test (POST), POST is unsuccessful.

5. Err9: Y raster calculational direction is differ from electromotor.
6. Err10: Y raster signal can not be detected.
7. Err11: Y raster error is too much.
8. Err12: Inverted calculation is not normal.
9. Err13: POST of main board POST is unsuccessful.
10. Err14: Versions of main board and sub board are not matching.

6.4 Printing Steps

On normal condition, the steps are as follows:

1. Power on printer.
2. Turn on computer.

Note: It is recommended to power on the printer first. Otherwise the connection may fail.

3. Install media, put down the press rob to press on media.
4. Clean the head and start the self-diagnosis till no nozzle clogging.
5. Press ONLINE to online the printer, then LCD will display ONLINE MODE.

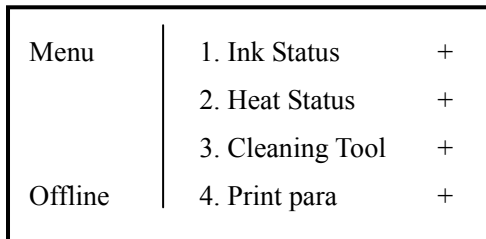


Figure: Offline Mode

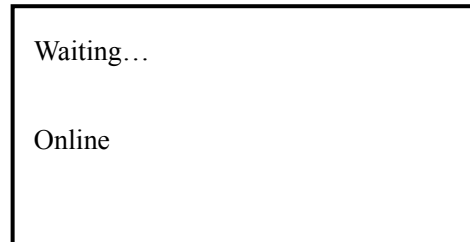


Figure: Online Mode

Figure 6-2 Offline/Online Mode

6. Trim the pattern for printing, and save it in computer.
7. Open INFINITI RIP.
8. Create new print file.
9. Load the pattern for printing.
10. Adjust the position, size, property, resolution of the pattern.
11. Printer setting
 - 1) Select File/Printer setting. Below dialogue figure shows:
 - 2) Select the type of printer.
 - 3) Click the "More". Set the relevant value in the following dialogue figure.

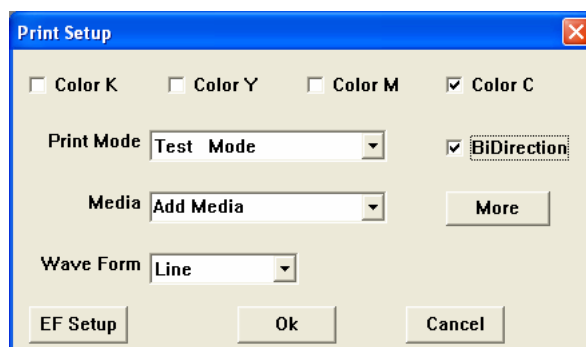


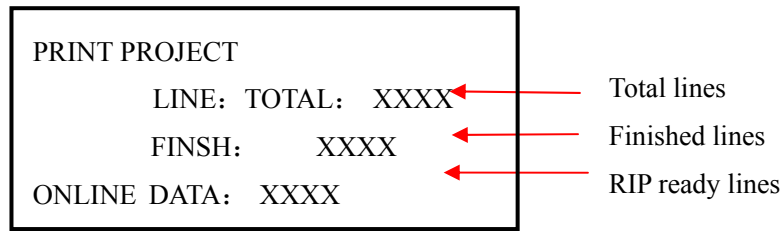
Figure 6-3 Printer Setting

- a. Select the quantity of print head.
- b. Select the printing precision.
- c. Select the printing mode: bidirectional printing or single direction printing.
- d. Press "color tune" to adjust color.

Note: Details of the functions above and others referred to the RIP Manual

12. Click “Printing Project” to print.

13. LCD displays as below when printing:



If clog while printing, pause printing by pressing ONLINE for 3 seconds (this operation is usable only when printer is printing back to original position). Now clean the print head, after cleaning, press ONLINE to continue printing.

Cleaning procedure:

Press ONLINE key for a pause then select “Move to Cleaning Position” in menu, the print head will move to cleaning position. Now press the positive pressure button to start positive pressure cleaning, then wipe the print head with cleaning stick. Finished, pause for 5-10 seconds, then select “Continue” to continue.

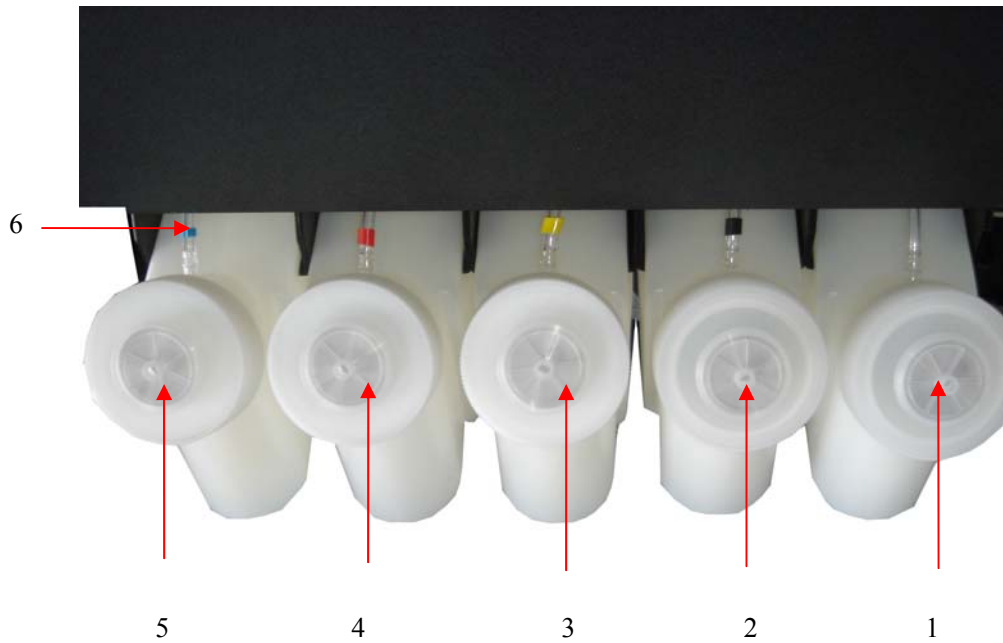
14. Press ONLINE when the printing is all finished. Then the printer is under the Offline mode.

Note: If users want to cancel during printing, usually operate in RIP. If users want to cancel directly, press OFFLINE until “Cancel” appears in LCD.

Chapter 7 Description of Ink Supply and Assistant Board

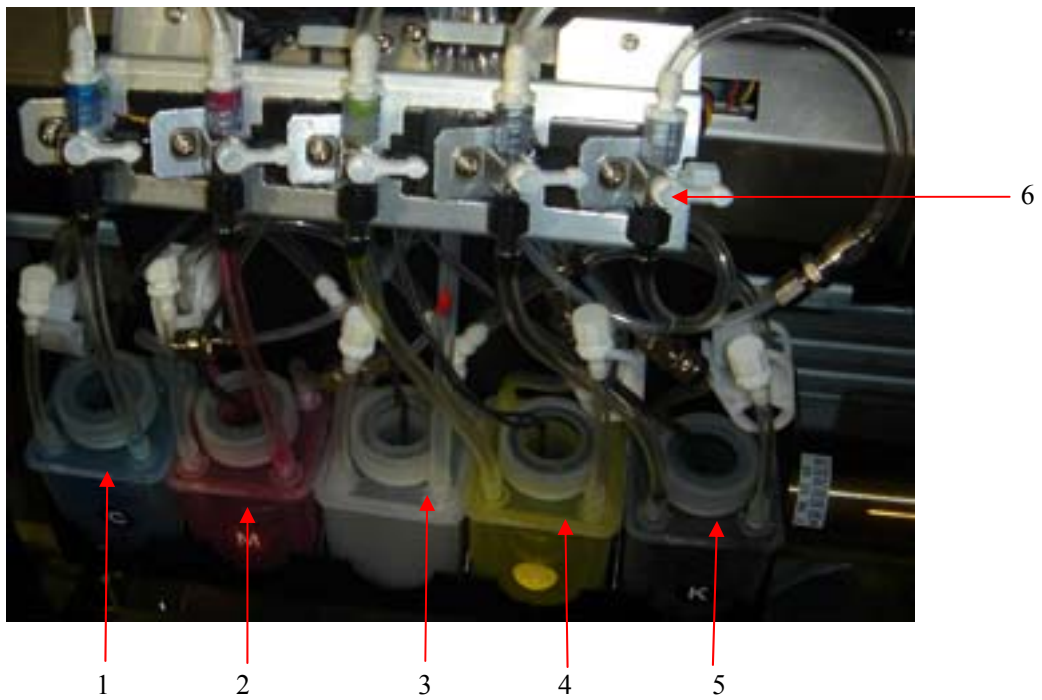
7.1 Ink Supplying and Cleaning System

Ink supplying, cleaning systems contain print heads, main tanks, sub tanks, ink pump and filter.



1. Main Tank C
2. Main Tank M
3. Main Tank Y
4. Main Tank K
5. Flush Solution Tank
6. Ink Pipe

Figure 7-1 Main Ink Tanks



1- Sub Tank C

2- Sub Tank M

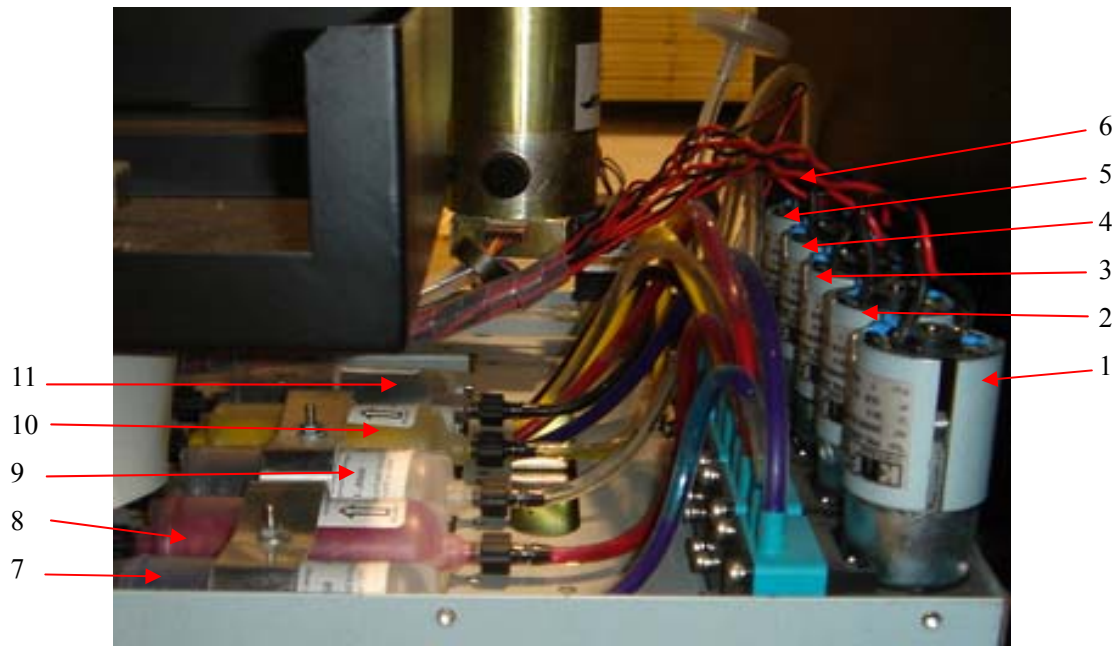
3- Safe Tank

4- Sub Tank Y

5- Sub Tank K

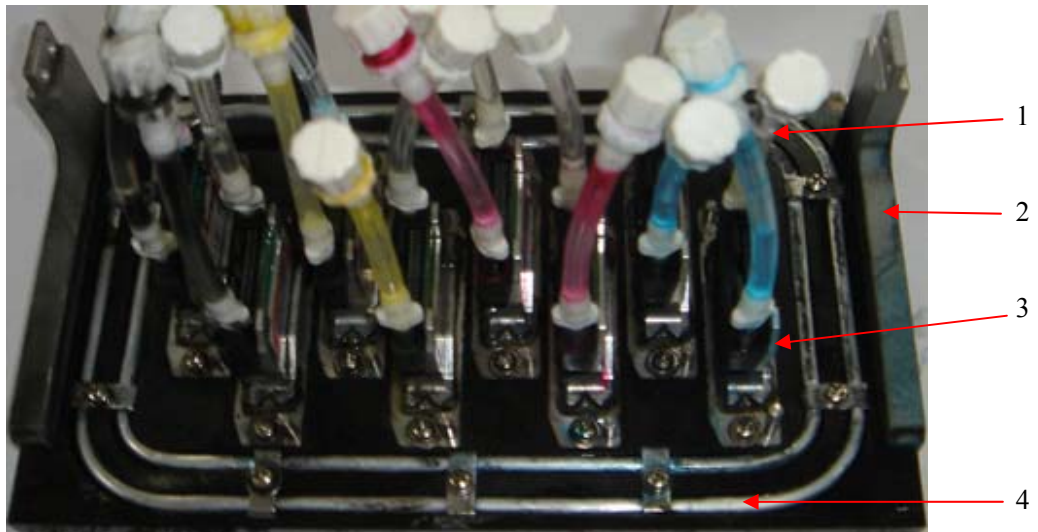
6- Three Way Valve

Figure 7-2 Sub Tanks



- 1- Cyan Ink Pump
- 2- Magenta Ink Pump
- 3- Flush Solution Pump
- 4- Yellow Ink Pump
- 5- Black Ink Pump
- 6- Positive Pressure Pump
- 7- Cyan Filter
- 8- Magenta Filter
- 9- Flush Solution Filter
- 10- Yellow Filter
- 11- Black Filter

Figure 7-3 Pumps and Filters



- 1、 Ink Tube
 - 2、 Print Head Fixing Frame
 - 3、 Print Head Frame
- Figure 7-4 Print Head Frame

7.2 Function and Operation Panel of Compositive Assistant Board

Compositive assistant board has functions of ink supplying, cleaning, and heating. Users operate the ink supplying cleaning to control the functions. Below is the picture of board:

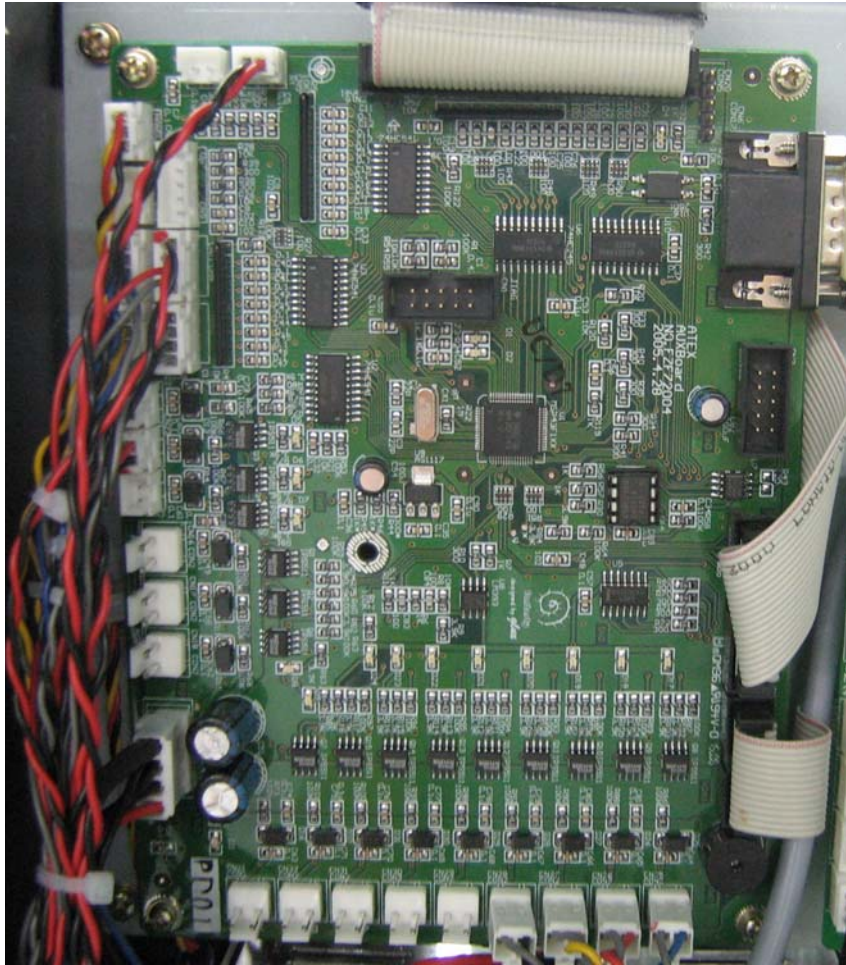
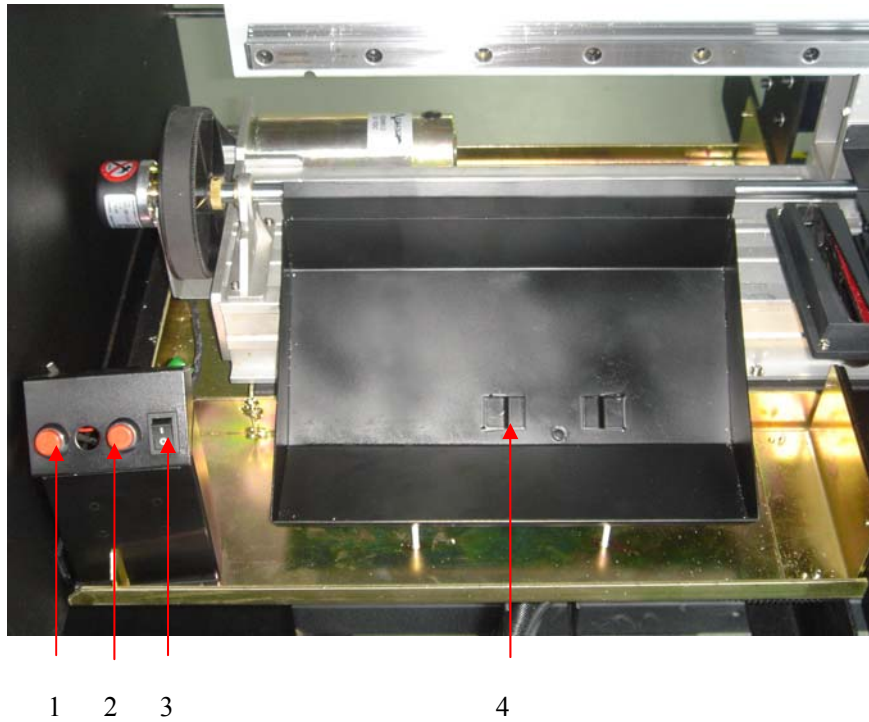


Figure 7-5 Compositive Assistant Board

Ink supplying cleaning frame is connected with compositive assistant board by cables. Press the ink pressing button and positive pressure cleaning button to operate ink supplying and cleaning.



1、Flush Solution Cleaning Button

2、Ink Pressing Button

3、Lighting Switch

4、Waste Ink Groove

Figure 7-6 Ink Supplying and Cleaning Buttons

Chapter 8 Ink Supplying System

8.1 Summary

This ink supply system can control automatically several pumps at the same time. And it has perfect interface. It can adjust ink supply pressure and provides protect function.

8.2 System Diagram

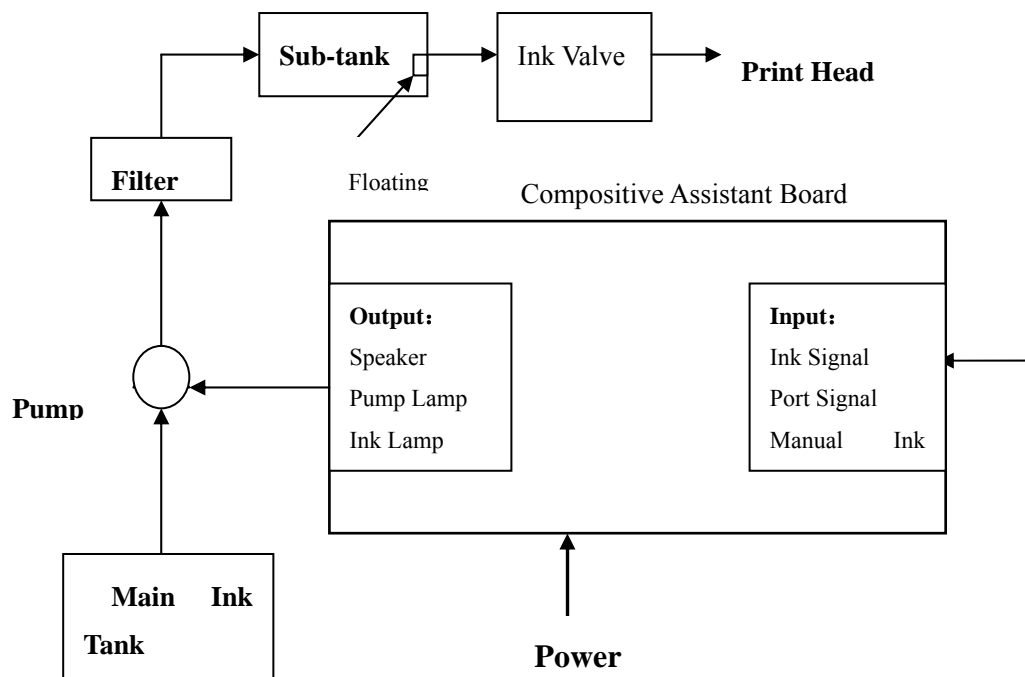


Figure 8-1 Ink Supply System Diagram

8.3 Function Description

- 1、 This system can automatically control several pumps to supply ink simultaneously.
- 2、 With perfect alarm and protection function. If any problem occurred in any pump, it will alarm and indicate which one is in trouble and the troubled one will not affect others.
- 3、 It is easy to connect it to other systems. All floating switches signals can be input by serial port or parallel port.
- 4、 Separate ink supplying system, convenient operation.
- 5、 Main controller consists of micro CPU, which can check signals using software to filter out those false ones, which is helpful to make system work more reliably.
- 6、 The maximum ink limit is controlled by intelligent control system of main control board, in case that the electric circuit cause ink supply shortage.

8.4 Operation Description （ Please read descriptions carefully for ink supply system, cleaning system and compositive assistant board before starting the following operations.）

Note: Power on printer for the first time, ink must be pressed into print head by positive pressure. Press pressing ink button, then observe the print head, till there are 4-5 ink streams out from one print head, then you can loose button. At this time, ink has been pressed into print head,

- 1、 As soon as the printer's connected with power, system detects floating switch signal automatically, and then ink will be filled into sub-tank.
- 2、 When ink channel lacks of ink, system will start the pump automatically. After the floating switch sensed the ink, the pump will work for on for a little time and then stop. When the system starts to supply ink, control panel will display which channel is supplying to remind the users.
- 3、 When ink in sub tank is used out, or the ink pump has been running for too long time, the control panel will display which channel supplies overtime and system will stop the pump forcedly and automatically and will alarm(continue "Di" noise). Now pressing **INK STATUS** on control panel then pressing **ENTER** to cancel alarm and printer reenters ink supplying system.
- 4、 When ink in safe tank is full, the control panel will display **Warm6** to alarm and the buzzer will alarm "Di, Di, Di" noise.

8.5 Intelligent Detection Function

Intelligent detection function for ink supply system is implemented by collecting floating switch signal with high frequency. By using concept of probability, the signal is regarded as effective if probability of floating switch signals is higher than a set value (for example, 80%). Therefore, wrong act of floating switch can affect the system's stability much less and accordingly system's anti-disturbance improves.

Chapter 9 Cleaning System

9.1 Summary

There are two cleaning methods: manual positive pressure cleaning, cleaning with flush solution

9.2 System Diagram

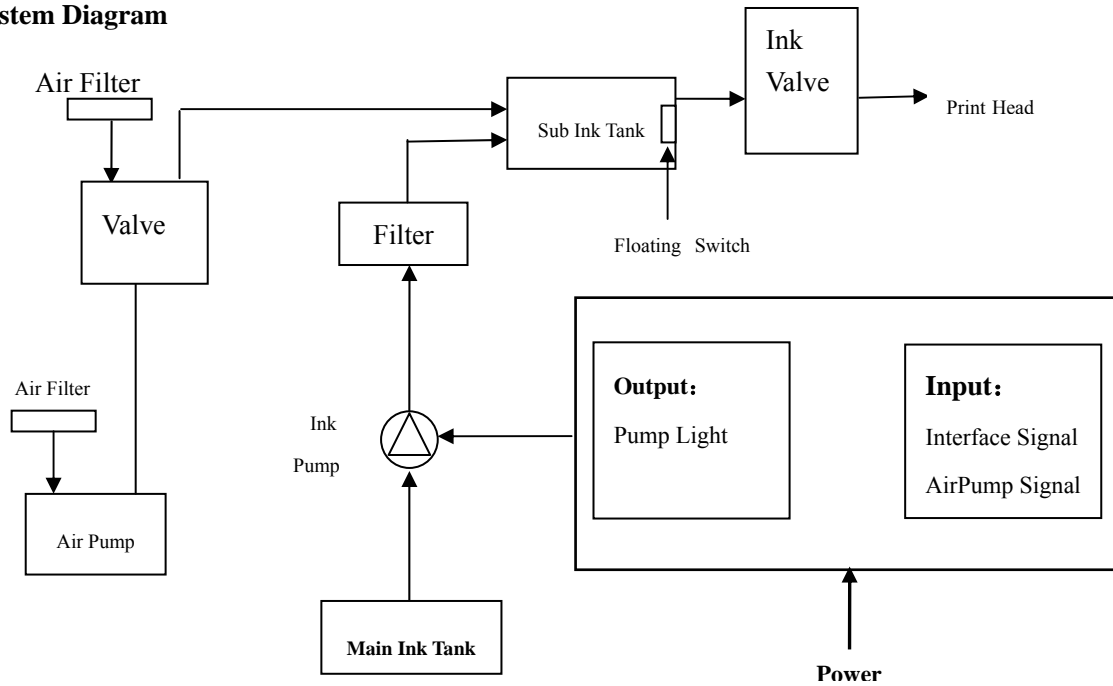


Figure 9-1 Cleaning System Diagram

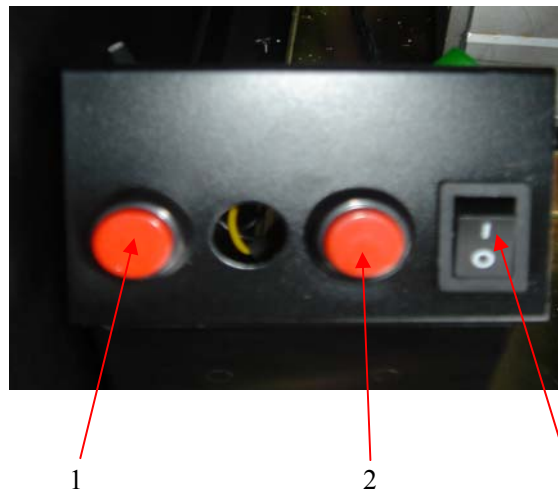
9.3 Operation Description

9.3.1 Manuel Positive Pressure Cleaning

This function is used for print head cleaning during printing process.

1. Working Elements

Press cleaning button on ink supplying and cleaning operating frame to transmit signal to air pump, then air pump transmits air pressure through electromagnetism valve and air tank, then to sub ink tank, the air pressure will press ink into print head to clean it.



1- Flush Solution Cleaning Button

2- Pressing Ink Button

3- Light Button

Figure 9-2 Ink Supplying Cleaning Buttons

2. Operation of Manual Positive Pressure Cleaning

In printing process, if there is jam, please press ONLINE button for some seconds to stop print. Then select "Move to Cleaning Position" to move print head to cleaning location. Press pressing ink button near cleaning location to press ink, then wipe the surface of print head with cleaning stick. Finally, waiting for 5-10 seconds then select "Continue" in menu to continue printing.

9.3.2 Cleaning Solvent Cleaning

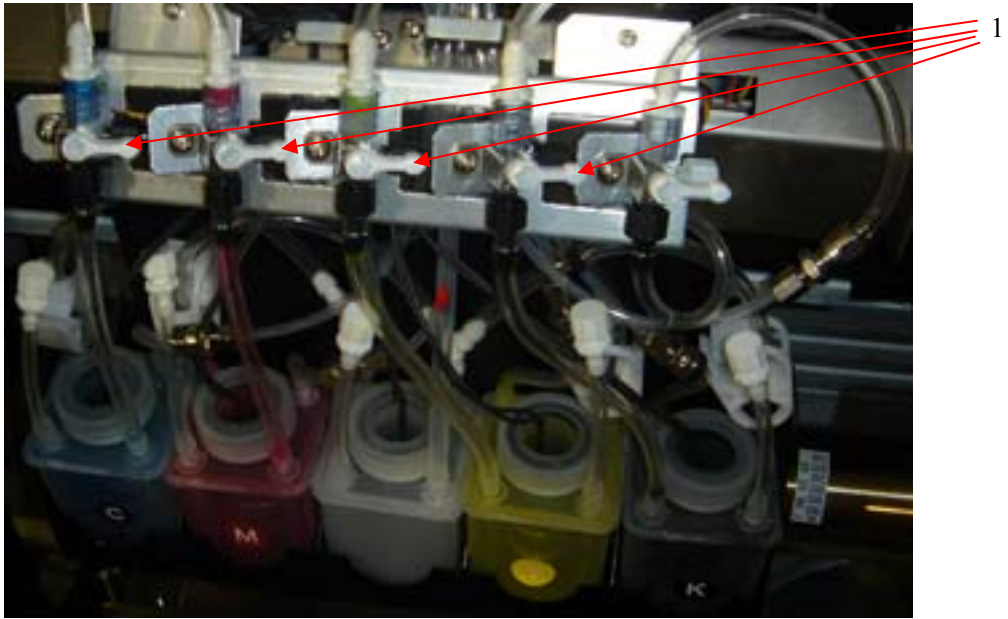


Figure 9-3 State of Three-way Valve in Printing Process



Figure 9-4 State of Three-way Valve when Using Flush Solution

Note: For the print heads are many, normally cleaning two or three channels when use flush solution cleaning.

1- Ink Open

2- Ink Close

3- Flush Solution Open

Ink-Flush Solution Three-way Manual Valve

When the printer will leave used for a long time, please flush the print head with flush solution.

Operation in Details:

Adjust the three-way manual valve at flush solution, move print head to cleaning location

By select menu on control panel, press the “Flush” button on operating frame to start cleaning pump to send flush solution into print head.

Note:

When the three-way valve is at ink adjustment, do not press “Flush” button on operating frame, otherwise, the flush solution will flush away the valve.

Chapter 10 Heating System

10.1 Summary

The heating system has advanced temperature sensor, can improve the reliability of heating system. According to different media and surroundings, we have optimized and confirmed the heating temperature by several experiment. The system will adjust automatically to keep temperature constant. Customer can have satisfactory printing effect.

The heating methods: 1. front-rear heater 2. far infrared heater

10.2 Front-rear Heater System

10.2.1 System Diagram

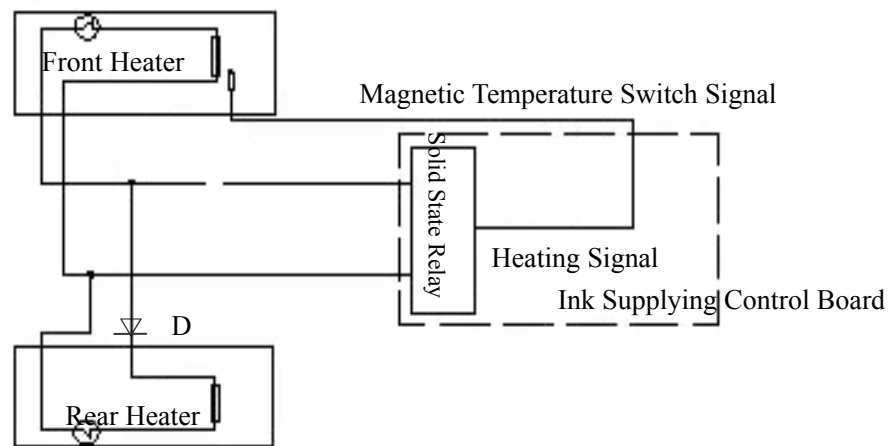


Figure 10-1 Heating System Diagram

10.2.2 Function Description

- 1、To keep the front and rear heating boards in auto constant temperature.
- 2、With advanced protective functions to avoid over-heating, creepage, etc. The line will be cut off automatically if a certain line's temperature is over 65°C. As soon as the temperature lowers, it will resume heating. Over heating will not occur when the entire input signal is cut off.
- 3、The system can work independently and can be easily transplanted. It is easy to convert input voltage from AC110V to 220V.
- 4、The heating system is controlled by advanced intelligent microprocessor; it has features of heating up quickly, controlling temperature accurately and saving energy.
- 5、Inside heaters are used. It is easy to install, with no extra space needed and longer lifetime.

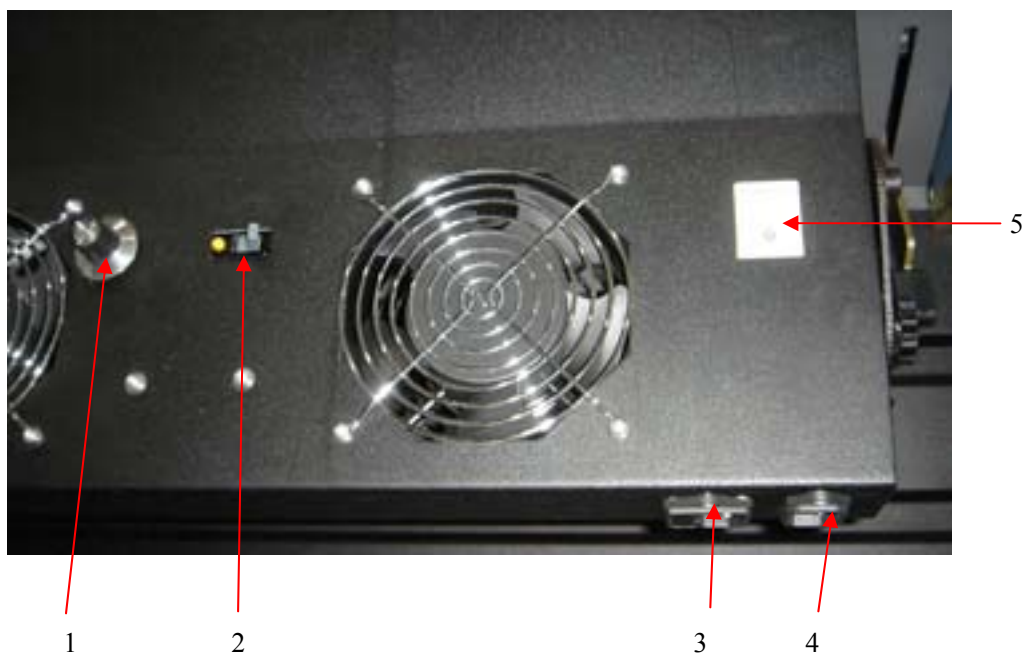
10.2.3 Working Process and Characteristics

- 1、Users can set the temperature of front heater by operating on LCD control panel. For there is only one sensor to detect the temperature, so users can not set or change the pre-heating temperature by operating on LCD control panel.
- 2、Heating power supply is independent from control power supply. Please turn on the heating power before turning on the power for the printer. Once the power is on, the system heats up automatically to set temperature and keeps the temperature at the set value. Without turning on power for printer, the heating system will not work. However, there is still AC 220V inside machine.
- 3、Temperature detector lies about 50 cm to the right physical printing original position. Print media should cover this region when printing.
- 4、After printing, make sure to turn off the two powers.

10.3 Far Infrared Heating System

The far infrared heating system has four far infrared tubes to heat. The left switch is used to control the two left tubes; the left knob is used to adjust the power of the two left bubbles. The right switch is used to control the two right tubes; the right knob is used to adjust the power of the two right bubbles.

The position of switch and knob is as picture below:



1- Far Infrared Heating Adjusting Knob

2- Far Infrared Heating Switch

3- Far Infrared Heating Power Socket

4- Fan Power Socket

5- Power Switch

Figure 10-2 Far Infrared Heating Switch

Chapter 11 Software Operations

11.1 Installation

11.1.1 Installation of RIP Software:

- a) See the RIP User's Manual for details.
- b) Insert RIP CD into computer's CD-ROM
- c) Run setup.exe
- d) Follow the instruction to finish the installation

11.1.2 Installation of printer driver:

- a) Insert installation CD into CD-ROM
- b) Run setup.exe under directory of TRY SETUP
- a) Follow the instruction to finish the installation

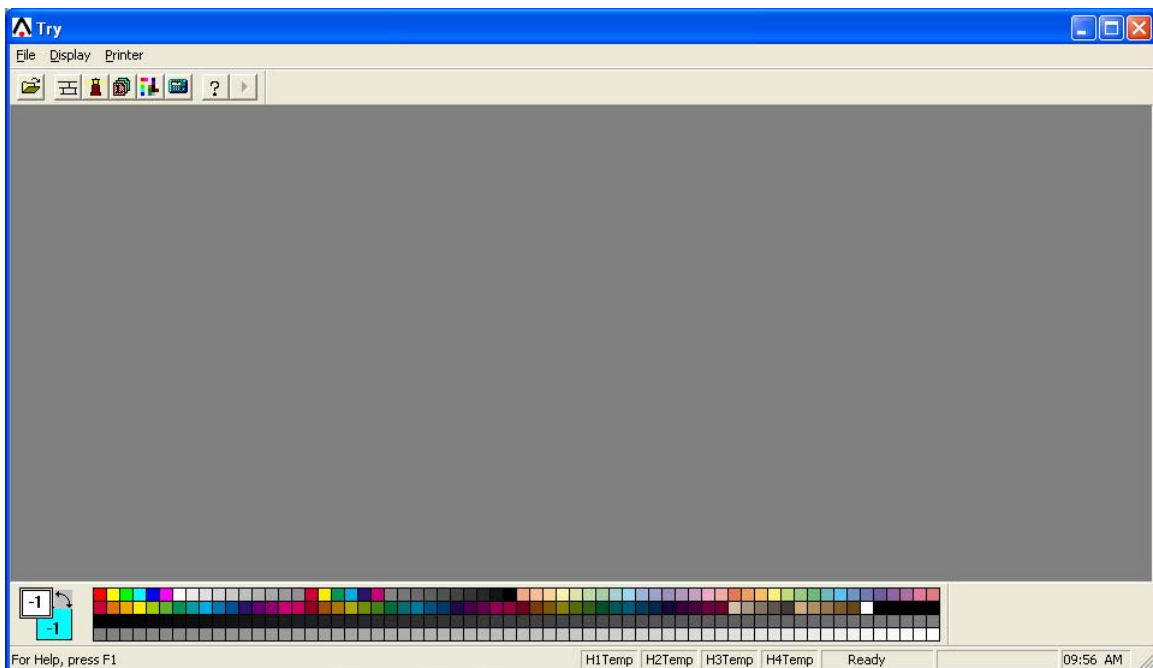
Note: Please use the default directory for the installation.

11.2 Application of Printer Driver

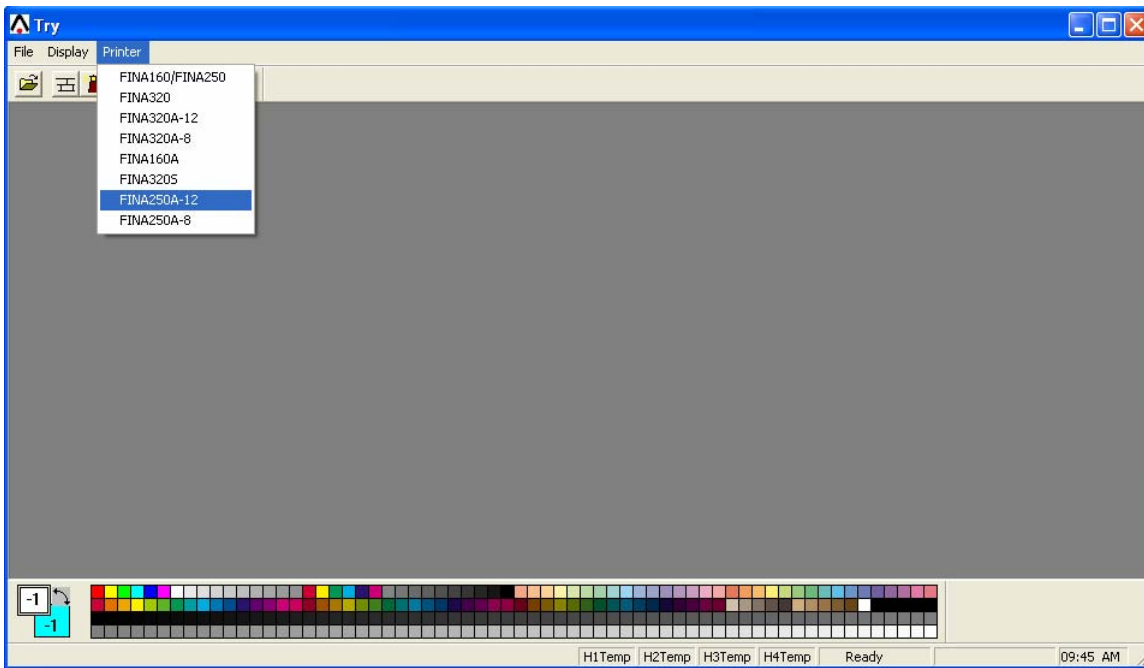
Note: The printer driver program is only for engineer to adjust the print head, and not necessary for normal operation.

11.2.1 Enter TRY

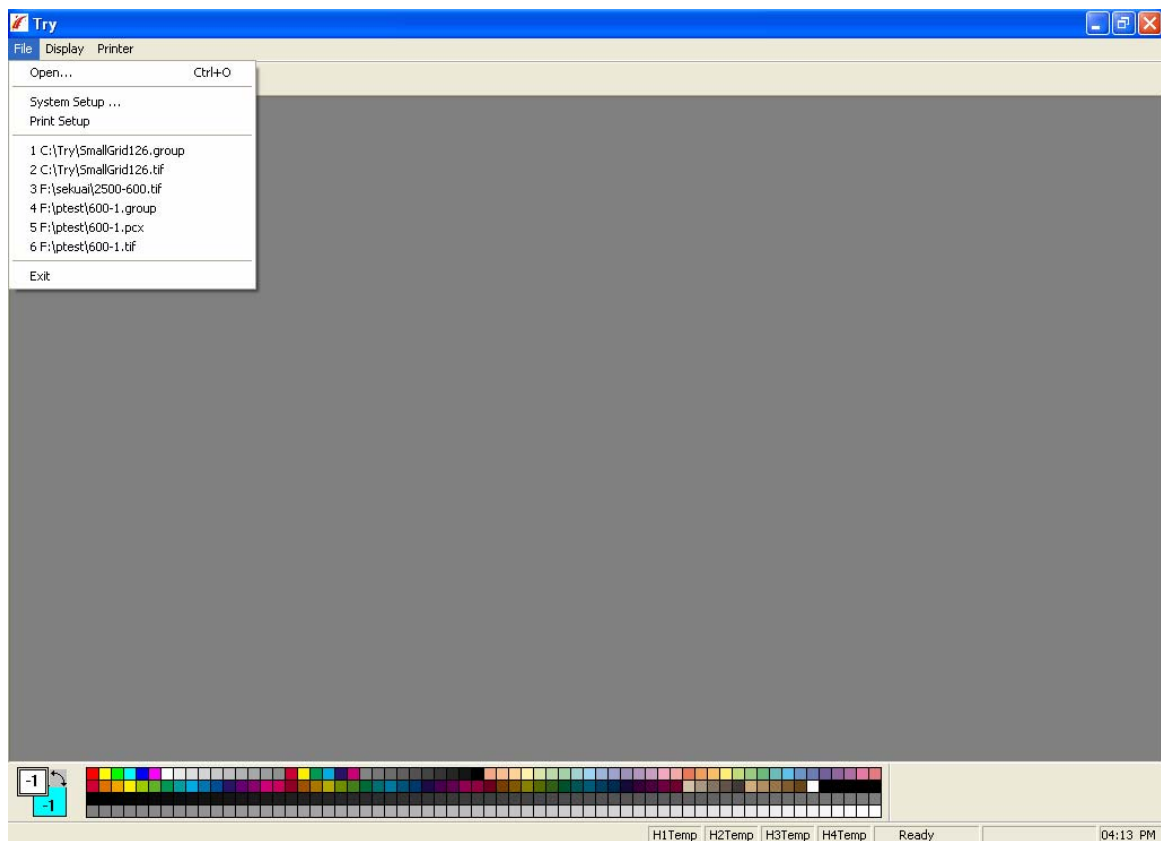
- 1、Click start\Program\Try, enter Try system.
- 2、Open TRY:



- 3、3、 First, choose the type of printer. Click “Printer” menu, choose FINA250A.



4、 Then open “File” to adjust some settings.



In these menus, the most important is print setting.

11.2.2 Print Setting

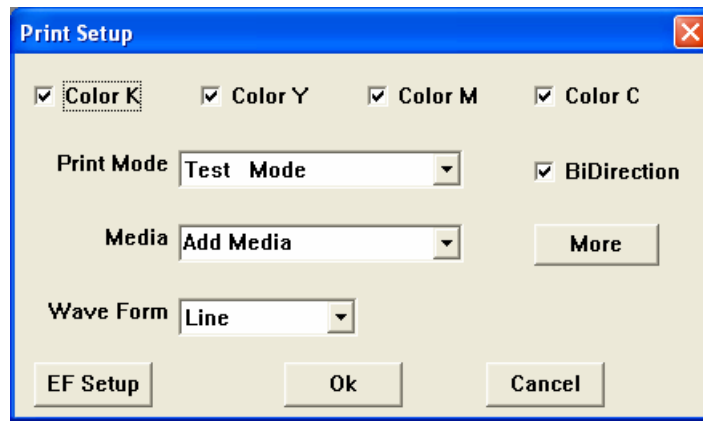


Figure 11-4 “Print Setup” Dialog Box

This function is to set the printing parameter, print mode, unidirectional, BID and the color of ink.

Note: Usually the four colors should all be selected. Only when the engineer adjusts the position of head, one certain color is chosen to modify the printing parameter.

Quantity of Print Head: This drive software abets 8 print heads printing.

Print Mode:

There are 4 modes for choosing:

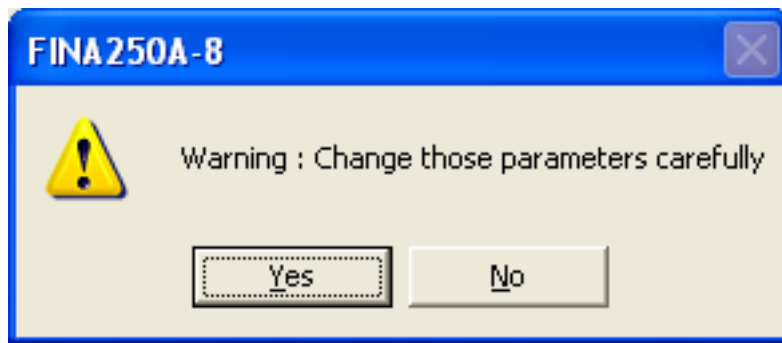
Test mode, 360*360, 360*720, 720*720.

Explanation:

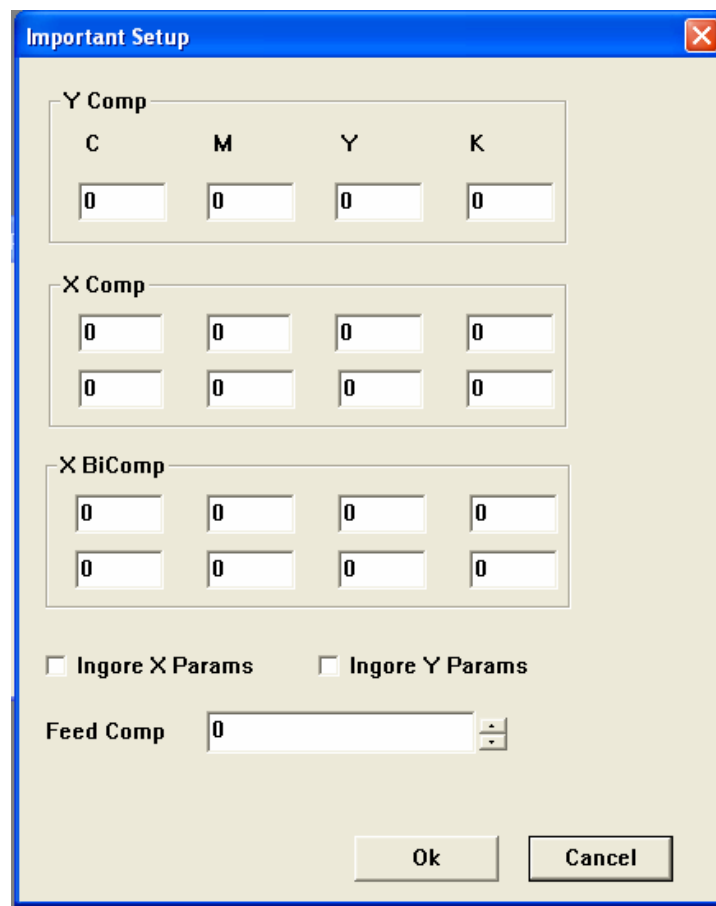
- Test mode: Horizontal printing precision is 360 dpi. Printer will print 360 dpi precision once at feeding direction.
- 360*360: Horizontal printing precision is 360 dpi and print once. Printer will print 180 dpi precision twice at feeding direction.
- 360*720: Horizontal printing precision is 360 dpi and print once. Printer will print 180 dpi precision four times at feeding direction.
- 720*720: Horizontal printing precision is 360 dpi and print twice. Printer will print 180 dpi precision four times at feeding direction.
- 720*1080: Horizontal printing precision is 360 dpi and print twice. Printer will print 180 dpi precision six times at feeding direction.
- 720*1440: Horizontal printing precision is 360 dpi and print twice. Printer will print 180 dpi precision eight times at feeding direction.

11.2.3 Printer Parameter Setting

Pressing “Printing parameter setting”, it shows warning as below:



After pressing “Yes”, you can see the dialogue box



Meaning of this dialogue box:

1. Parameter of nozzle installation:

Adjust the head position and overlapping of four colors.

Vertical Interval: the vertical interval of all kinds print heads, is used to adjust the overlap of the print heads at the vertical direction. The vertical interval between two print heads for one color is ensured by mechanical precision.

Horizontal Interval: the horizontal interval between each print head, is used to adjust the overlap of the

print heads at the horizontal direction.

It is used to adjust print head and the overlap of the four colors.

The arrangement of print heads is as below:

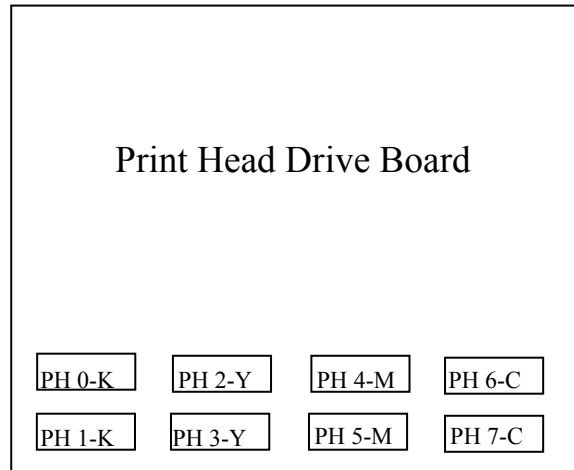


Figure 10-7 Print Head Control Board

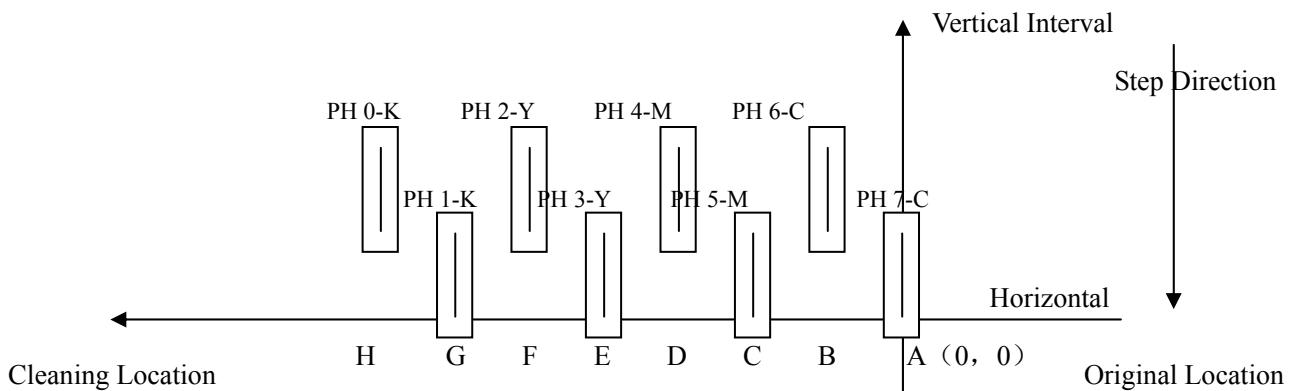


Figure 10-8 Arrangement of PH (Print Head)

2. BID Adjust: Adjust the correction error of all print heads in bidirectional printing. Normally pre-adjust the value of BID adjust in control panel if there is difference between print heads.

3. Ignore horizontal and vertical deviation: No adjustment. Only for inspect printer status.

4. Step Correction: Used to adjust the error of each 1 PASS printing steps according to different printing media and modes. After adjustment, the printer will automatically select the corresponding step corrections according to different printing media and modes.

EF value setting:

Each Xaar126 head has its own EF value. Manufacture always provides a standard EF value which is captured under standard condition. Users input this value at column Voltage. Usually, the printing effect is good. The value

is marked on the head. It is also saved in the chip of print head driver. User can download it directly.

If the voltage is too high, it produces the satellites and ink supply is easy to break; If the voltage is too low, the printing line is not straight and easy to have an angle. Besides, ink volume is small and output color is light. Therefore, every head has its optimal EF value. When adjusting, you can adjust the EF value one by one. Usually user needn't to adjust EF value.

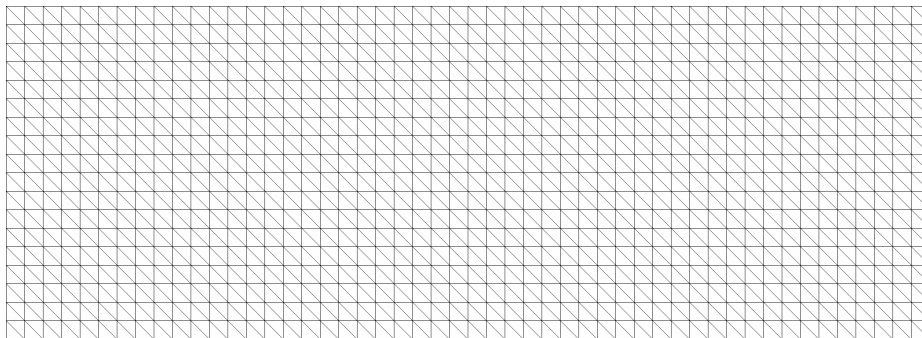
When users assemble the print heads, please select print heads that have the same or similar EF value for one color, otherwise the color may has chromatism.

11.3 Print Head Adjustment


11.3.1 Enter Software TRY.

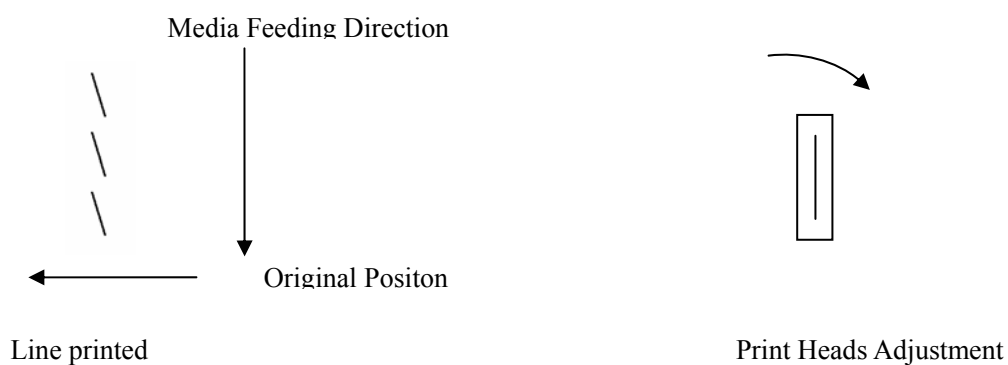
11.3.2 Angle and Position Adjustments of Print Heads

Click “File” menu, then click “Open”, select file in C:\try\SmallGrid126.group.



SmallGrid126.group

Select “Test Mode”, single direction, select color “C” only. Click  button, printer will print in C color only, The lines in vertical direction should be vertical, if not, please adjust the angle of print heads.




Angle Adjustment of Print Heads

After adjustment, observe the lines that printed in one color, if there is interval or overlap, please adjust the position of print heads.

Print heads adjustments of other colors are as the C color. Please do not change the default value in “More”.

11.3.3 Adjustment of Feed Compensation

Open file: C:\try\SmallGrid126.group, “printing option” select test mode, single direction, “C” color.

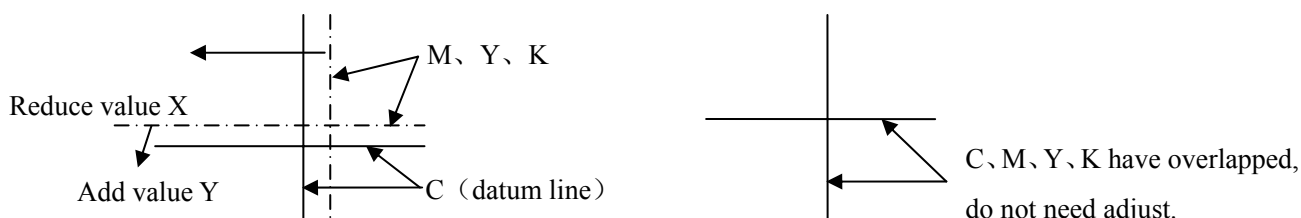
Click “” button to print, adjust the value in Adjustment \ Rectangle till the printing pattern is even grid and lines aligned, then save the value.

If the printing pattern has interval, reduce the value, if pattern overlap increase the value. Other step corrections in different modes are the same way above.

Step corrections are different according to different printing modes, so each printing mode should be corrected.

11.3.4 Colors Overlap Adjustment

Open file: C:\try\SmallGrid126.group, “printing option” select test mode, single direction, “C” color.



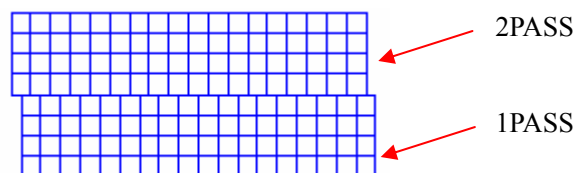
Adjust the parameters of print heads in “More” ,and fill the relevant values in the blanks.

Note:

The horizontal and vertical intervals have been set before leaving factory; users do not need adjust them. Except that the machine has been transited for long distance or when it prints, C, M, Y, K can not overlap, in these conditions, users should adjust the intervals.

11.3.5 Adjustment of Bidirectional Printing

Open file: C:\try\SmallGrid126.group, “print Mode” select test mode, Bidirection, “C” color.



Now the BID value should be increased, contrarily the BID value should be reduced. Adjustments of other colors are the same as this.

Note: Different printing speeds have different BID printing corrections.

11.4 Basic operation of RIP

Refer to 《RIP Software manual》. Please close the printer driver software before opening RIP.

Note: Do not open TRY and RIP software synchronously, for avoiding the interference.

Chapter 12 Maintenance and Correction

12.1 Daily Maintenance

Daily maintenance is very important for printer, the description in details as below:

- ① Maintenance after each printing:
 - Erasure dried ink from print head surface with flush solution;
 - Restore the jammed nozzles before next printing.
- ② Each 8 hours:
 - Oil the print head rail and clean the dust from it once each 8 hours.
- ③ Daily work:
 - Check waste tank and clean it if necessary.
 - Check the waste ink groove on the cleaning position and empty it if necessary.
 - Fill flush solution in print head after printing, and add print head frame.
 - Clean the cloth-in roller and pressing wheel with PM acetate.
 - Do normal clean for the printer everyday.
- ④ Weekly work:
 - Check and clean heater.
 - Check system route if there is any loose.
- ⑤ Monthly work:
 - Clean the floater switches in sub ink tanks.
 - Clean the filters of ink and flush solution.
 - Check valves of positive pressure cleaning if there is any leak of ink. Clean them with flush solution if necessary.
 - Check the tension of strap.
 - Clean dust in power tank.
- ⑥ yearly work:
 - Replace ink filters.
 - Blower the dust on power tank with compress air.
 - Clean the main ink tank.
 - Clean the ink supply routes.
 - Clean the liquid pumps for ink supply.
 - Oil the gears of feeding and take-up motors.
 - Check whole circuit if there is any loosen or broken. Repair it in time if necessary.
 - Check if there is any tear on the pipe and wire in the towline set and replace it if necessary.

12.2 Maintenance of print head

Always keep the surface of print head wet with flush solution. If the printer is left unused, the print head must be dropped with flush solution and covered with fresh-keeping polyethylene films to keep it wet.

1. Moisturizing of print head

If the printer is left unused for 2 day and above, do as below to keep the print head wet:

- a) Dip the unwoven fabric with flush solution.
- b) Cover the unwoven fabric on the surface of print head.
- c) Wrap the print head unit with fresh-keeping polyethylene film.
- d) Cover the wet-keeping frame the print head.

2. Unload print head:

Do as follows when you are going to unload print head:

- a) Pump out ink from print head and clean it with flush solution.
- b) Power off the printer and plug out power line from socket.
- c) Check static on the machine with a multimeter and release the static if necessary.
- d) Loosen the Up, Left and Right screws, and take out the right screw.
- e) Take out the print head and put it on an unwoven fabric soaked with flush solution.

3. Assemble print head:

- a) Power off the printer and plug out power line from socket.
- b) Check static on the machine with a multimeter and release the static if necessary.
- c) Please refer to chapter 3 to get print head assembling information in details.
- d) Connect the data cable to print head connect board one by one.
- e) Check the connection of data cables to eliminate wrong connection.

NOTE:

If the data cable is connected wrong, the print pattern will dislocate.

12.3 Maintenance for supply system

The ink supply system is very important. Maintenance for ink supply system is also very important. The ink supply system includes main ink tank system and assistant ink tank system with filters to separate the ink from the open air. So cleanness of environment is primary condition to place the printer.

1. Main ink tank system

Main ink tank system consists of main ink tanks, filters, liquid pumps and waste ink tanks. Maintenance includes:

- a) Clean the main ink tanks, especially air filters, monthly;
- b) Clean or replace filters of ink and flush solution per half year;
- c) Clean around the main ink tank system weekly;

2. Assistant ink tank system

Assistant ink tank system consists of assistant ink tanks, safety tanks. Ink drops get together on the floaters in assistant ink tanks and dry to shape small balls on the top of sensors, which will impact the

sensitivity of sensors. To clean the floater, do as follows:

- a) Pump out ink from ink pipes by operating on clean control panel.
- b) Unload the 4 assistant ink tanks from the back of print head unit.
- c) Loosen and take out bolts from the cover boards of assistant ink tanks and then take the cover boards and floaters.
- d) Clean the floaters and assistant ink tanks with unwoven fabric and sponge soaked with flush solution. Ensure the floater switch move smoothly and then dry floaters and assistant ink tanks.
- e) Reload floaters in assistant ink tanks and assemble assistant ink tanks on the back of print head unit.

The safety tank also needs cleanness timely. The method is same as assistant ink tank except for the 2 air filters in addition.

12.4 Maintenance for other parts

1. Lubrication for print head rail:

As normal regulation, user should add lubricating oil to print head rail daily and never use compound oils.

- a) Add a few lubricating oil on a cotton fabric and move the print head to original position. Brush the print head rail with the cotton fabric to create an average oil layer on the rail.
- b) Power the printer and move the print head unit left and right repeatedly.
- c) Erase the oil smear on the both ends of the rail. Erase the oil drops on the rail again before printer running.

2. Take-up rollers:

Oil the gears of media take-up rollers monthly to avoid rust

12.5 Warning and Correction of Main Board

Warning:

1. Warn1: UV lamp is NOT ready.
2. Warn2: Pressing pole is NOT pressed down.
3. Warn3: The system is supplying ink.

Error:

When one of the errors listed below occurs during printing, the printer will run normally but give alarm for warning.

1. Err5: Ink refill overtime.
2. Err6: The safety bottle is full.
3. Err7: For solvent based printer: the waste ink rank is full.
4. Err8: Null

Errors listed below indicate the detail for further check when self test fails.

5. Err9: Y raster count direction differs from motion direction

Analysis and Corrections:

- 1) The lines a and b of Y raster sensor connect inverted.

Correction: The lines a and b connect correctly again.

- 2) The motor power line and rotary raster line insert inverted.

Correction: the power line and rotary raster line insert correctly again.

6. Err 10: Y raster signal is NOT detected.

Analysis and Corrections:

- 1) Raster sensor is broken.

Correction: Replace a new raster sensor.

- 2) Raster sensor is unconnected.

Correction: Connect raster sensor correctly.

7. Err 11: Y raster error is too big.(The situation enerally happens when print head moves from home position to cleaning position. Please check grounding and switch power.)

Analysis and Corrections:

- 1) There is error between the old version motor board and the new version main board;

Correction: Replace a new version motor board.

- 2) There is disturbance comes from power supply board and group line;

Correction: If there is error in element of power supply board, the power supply board must be replaced; if the ground line is not connected well, it must be connected correctly.

- 3) There is touching between raster and sensor.

Correction: Adjust the position between raster and sensor.

8. Err 12: Reverse count abnormal.(The situation enerally happens when print head moves from cleaning position to home position.)

Analysis and Corrections:

- 1) There is disturbance come from power supply board.

Correction: If there is error in element of power supply board, the power supply board must be replaced.

- 2) There is touching between raster and sensor.

Correction: Adjust the position between raster and sensor.

9. Err 13: Self test for main board failed

Analysis and Corrections:

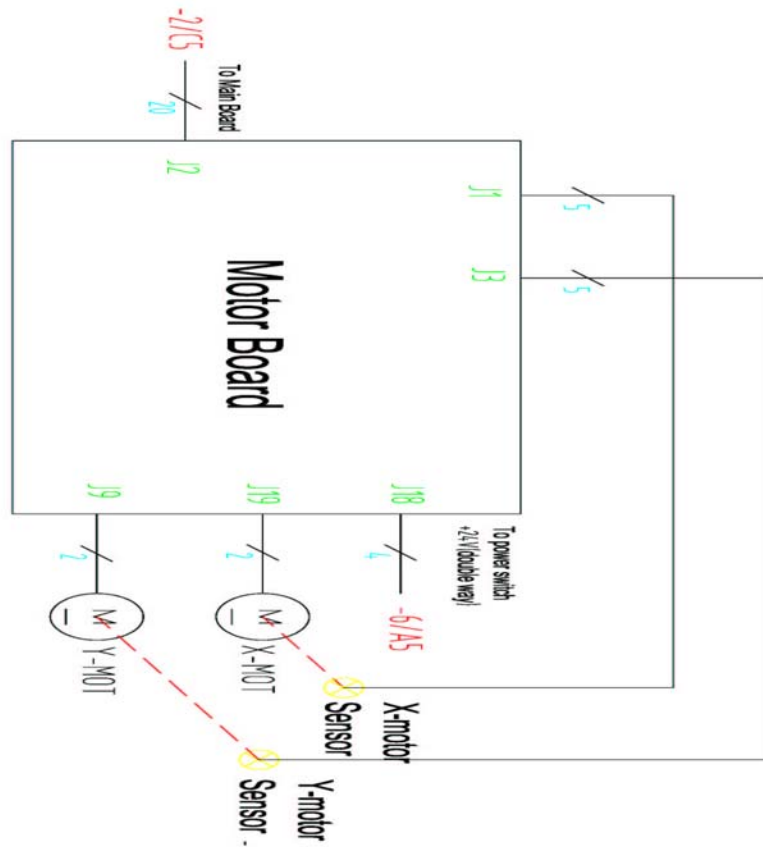
It shows anyone between Err 9 and Err 12. Please deal with the error as the settlements from Err9 to Err12.

10. Err 14: Version of assistant board NOT matches main board.

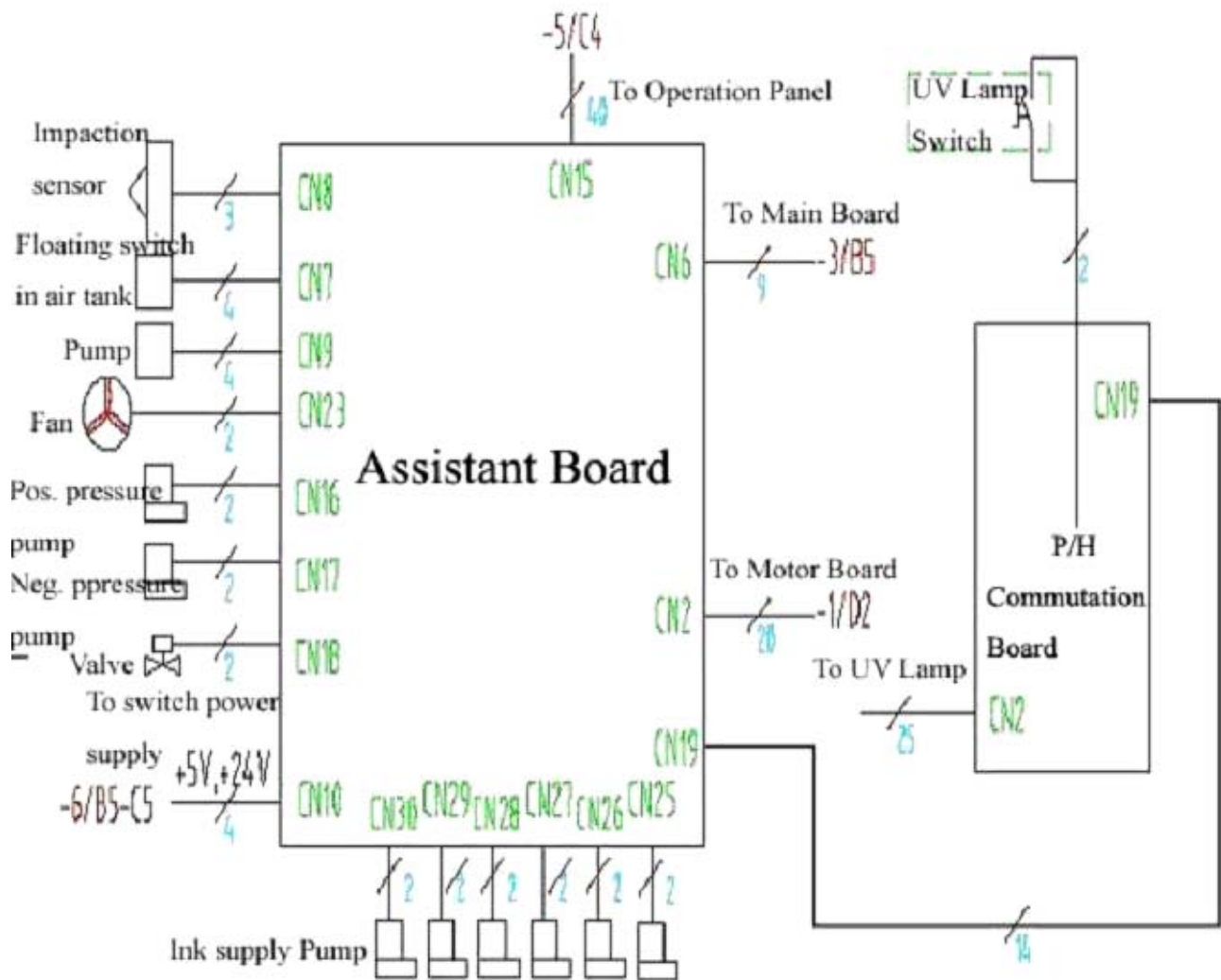
Analysis and Corrections:

Replace a new version assistant board.

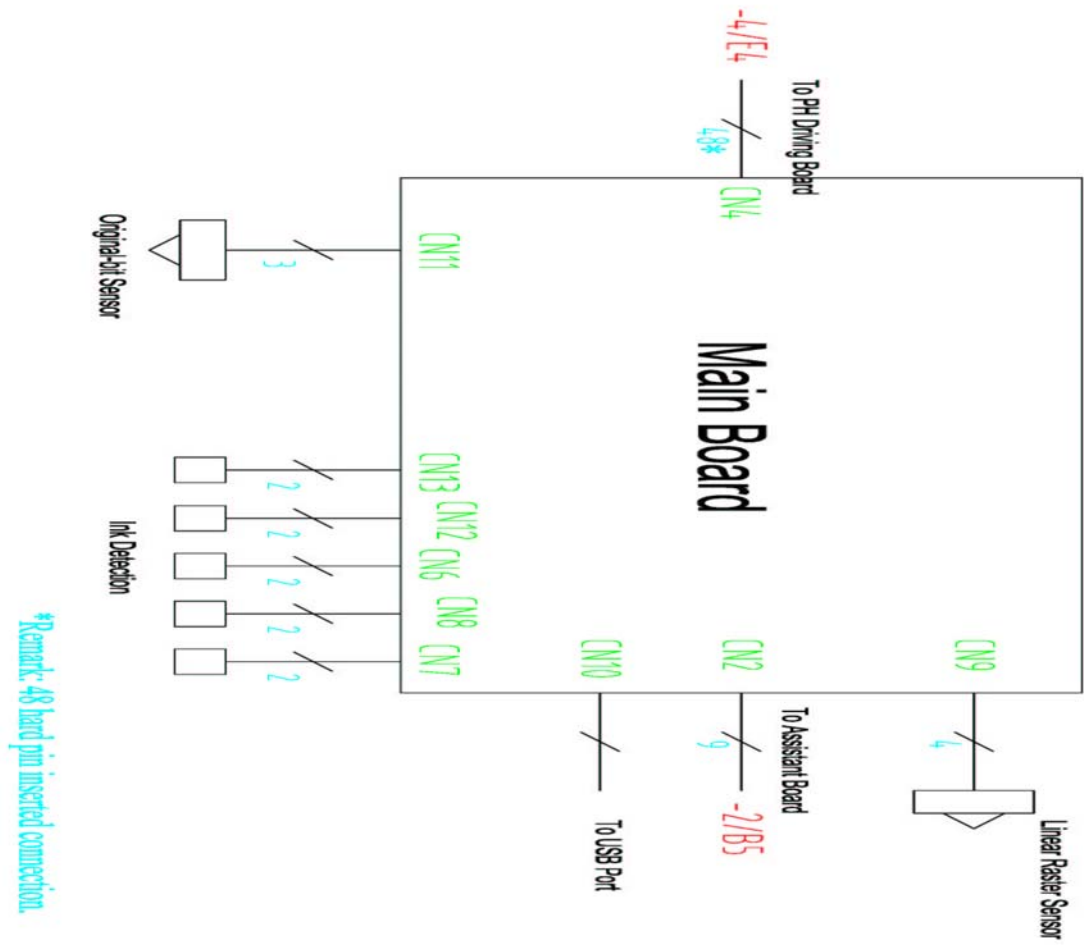
Appendix 1 Motor Board Diagram



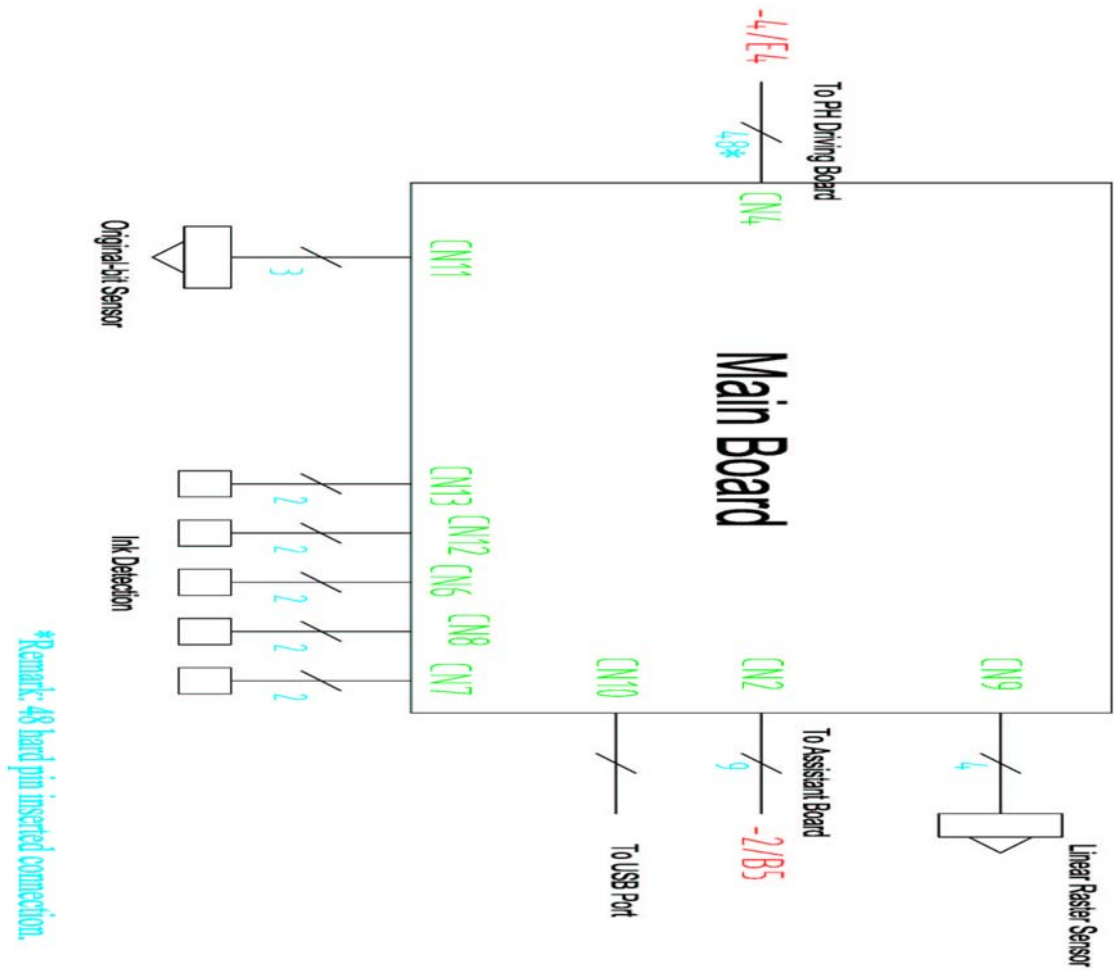
Appendix 2 Assistant Board Diagram



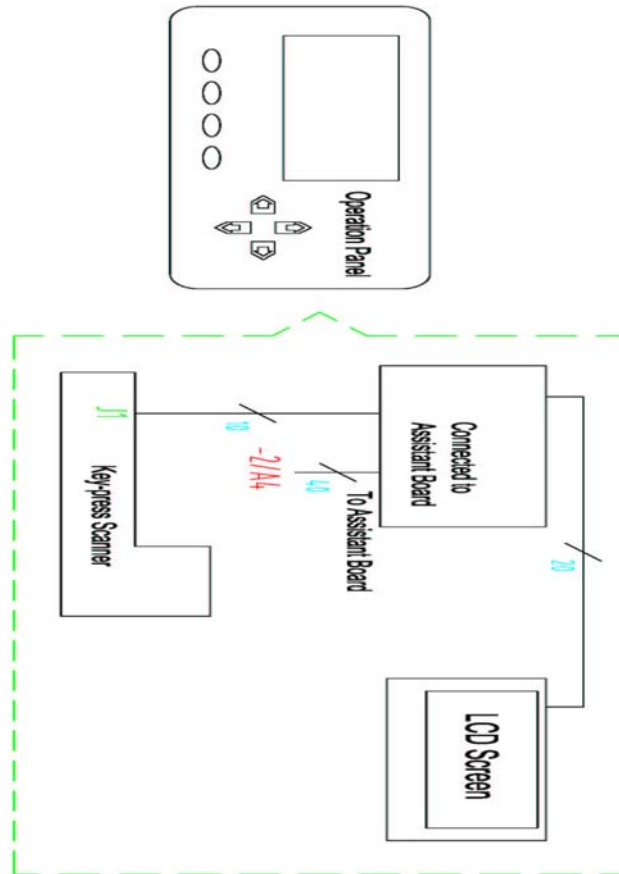
Appendix 3 Main Board Diagram



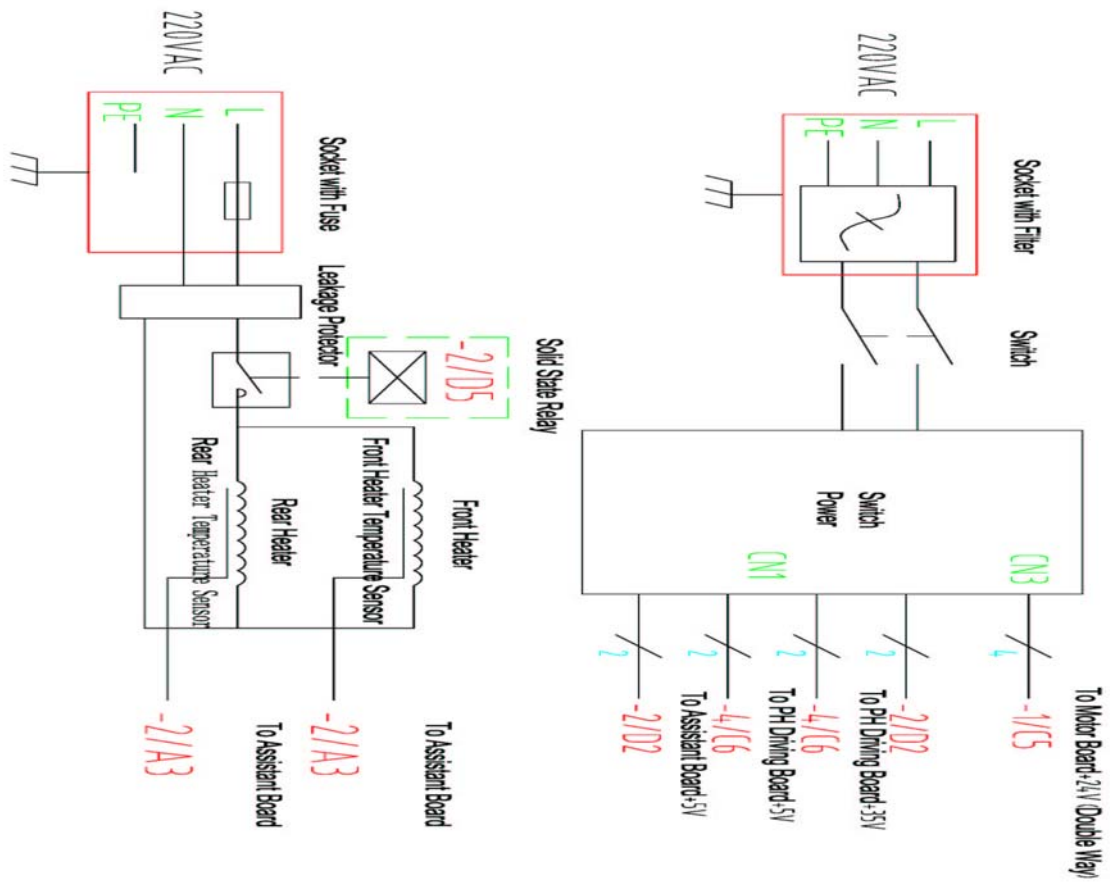
Appendix 4 PH Driving Board Diagram



Appendix 5 Operation Panel Diagram



Appendix 6 Power Supply Diagram



Appendix 7 Boards Connection Diagram

